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OCT 23 1928

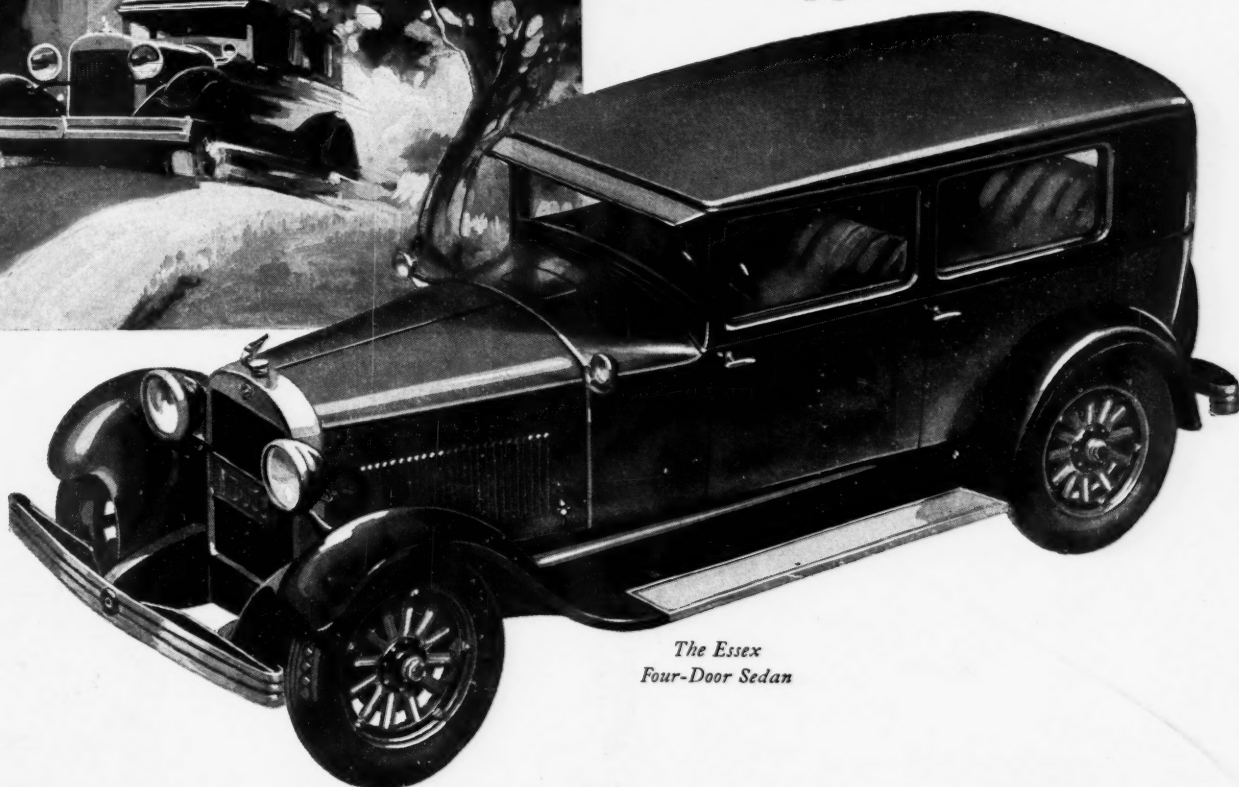
# MOTOR AGE

A Chilton Class Journal Publication  
Published Weekly October 18, 1928

## HUDSON-ESSEX



Always a Money Making  
Line, Now Offers Greater  
Sales Appeal Than Ever



*The Essex  
Four-Door Sedan*

Hudson-Essex today is more than ever the opportunity line of the industry. It has long been the outstanding money-maker for dealers through fast sales, and little service requirement.

Today these cars are greater in value, more beautiful in line, color and appointment. Each is more distinctive in appearance. Each is a triumph of body quality and comfort. Each is mechanically at the height of its value with chassis betterments overshadowing all forerunners.

Continued leadership of quality has made Hudson-Essex for years the world's largest-selling "Sixes."

That volume gives manufacturing economies not approached elsewhere, and permits prices way below any rival.

Their enormous and increasing sales success is simply a reflection of high public confidence and time-proven knowledge of their value.

HUDSON MOTOR CAR COMPANY - DETROIT, MICH.

Listen in on the **PERFECT CIRCLE SYMPHONY HOUR**, Station **WLW**  
8 to 9 Eastern Standard Time, every Tuesday evening

The advertisement below is

Reproduced from **THE SATURDAY EVENING POST** of November 10, reaching 3,000,000 readers

Ten thousand miles and running good;  
He's never looked beneath the hood,

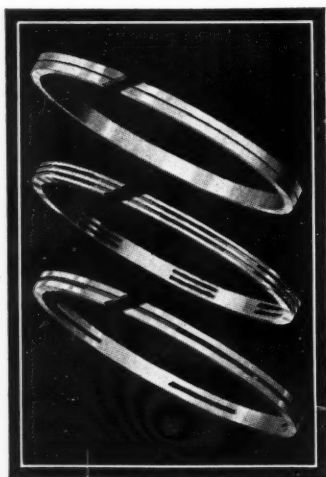
A few more thousand... here of late  
She takes more oil to navigate.

As time goes on her vigor wanes,  
While gas & oil consumption gains.

He limps into the next garage—  
It's got his goat, this smoke barrage.

And now, with **PERFECT CIRCLE** Rings  
A thousand miles each oil-fill brings.

There's just one thing that makes him sore—  
He should have had 'em long before!



Compression Type, 30c

DOUBLE DUTY Oil-Regulating Type, 75c

Pat. May 2, 1922

Oil-Regulating Type, 60c

## Hit the Perfect Circle Trail

**W**HEN your car begins to use more oil, have **PERFECT CIRCLE** Piston Rings installed right away. There's no use waiting, for it won't get any better. In fact, it will get worse, and perhaps cause real damage to the motor. **PERFECT CIRCLES** will give you new car performance. Three-fourths of America's passenger car makers use **PERFECT CIRCLE** Oil-Regulating rings as original equipment in all or a large part of their production. Insist on them for your car.

**THE PERFECT CIRCLE COMPANY** • General Offices: **HAGERSTOWN, INDIANA**

America's Oldest Volume Producer of Piston Rings

Plants at Hagerstown, Newcastle and Tipton, Indiana Export Offices: 549 West Washington St., Chicago, Ill.

# PERFECT CIRCLE PISTON RINGS

**It Pays to Use the Kind of Piston Rings People Want**



# "DIVERSIFY and PROSPER"

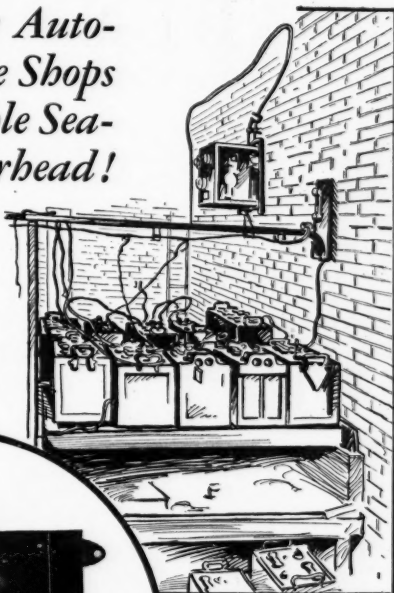
## The Watchword of the Industry—AND HOW!

*"Off-Season Slack" for Automotive Service and Tire Shops Turned Into a Profitable Season With the One Overhead!*

A period known as "Off-Season Slack" is now facing Automotive Service and Tire Shops.

However, BATTERY CHARGING comes into its big season right at this time—and supplies a highly profitable business that fits in perfectly with any automotive service.

Weidenhoff has perfected battery charging to a degree that requires absolutely no previous



The New Weidenhoff FIFTEEN-BATTERY CHARGING RECTIFIER

\$75.00

Charges 15 Batteries at a 6-AMP. Rate. Works while you go about your other duties or are home asleep.

The THIRTY-BATTERY CHARGING RECTIFIER, same as above but double the capacity, \$135.00.

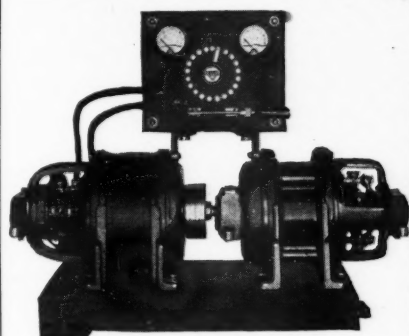
SIX (6) OR TWELVE (12) MONTH PAYMENT PLAN IS AVAILABLE ON WEIDENHOFF EQUIPMENT.



WEIDENHOFF RECTIFIER



The WEIDENHOFF CONSTANT POTENTIAL "Same-Day" Battery Charger. The Model 40 pictured, charges 10 BATTERIES EVERY 8 HOURS. Other capacities up to 60 BATTERIES IN 8 HOURS. \$19.70 per month pays for Model 40. It earns more than this in a day or two.



WEIDENHOFF  
"Same-Day"  
CONSTANT POTENTIAL

experience or technical knowledge. You step right into a new line of profit as easily as you have handled your other lines. Here are two distinct and profitable methods of charging batteries. Both methods—*Rectifier and Constant Potential*—earn big profits for Automotive Service and Tire Shops.

The easy monthly payments are but a fraction of the income produced by this equipment.

There are many interesting facts on Profit, and a complete comparison of *both Rectifier and Constant Potential* Battery charging, set forth in an address by Mr. Butler J. Haskins, Associate Member Society of Automotive Engineers. When you have read this bulletin you will be able to determine which method—*RECTIFIER or CONSTANT POTENTIAL*—is best suited to your requirements. Just send the coupon below for valuable information.

JOS. WEIDENHOFF, Incorporated  
4358 Roosevelt Road Chicago, Ill.

LET US  
SEND YOU  
THIS  
TIMELY  
BOOKLET



Jos. Weidenhoff, Inc.  
4358 Roosevelt Rd.  
Chicago, Ill.

Without any obligation to me you may mail your Bulletin No. 37, "Diversify and Prosper" to—

Name.....  
Address.....  
City..... State.....  
Jobber's Name.....

(M. A. 10-18-28)

# Weidenhoff

SHOP EQUIPMENT for  
BATTERY and ELECTRICAL SERVICE

# ECLIPSE

## BENDIX DRIVE



On Most Cars

### Service Parts Must Duplicate Original Parts!

STARTING a car with the Eclipse Bendix Drive is as easy as ringing an electric door-bell ... When you touch the starter-button you merely establish an electrical connection...The Eclipse Bendix Drive does the rest—*automatically* takes hold of your engine...cranks it...and *automatically* lets go...Operation so completely automatic as this cannot be left to chance—replacement parts must conform to the same high standard of accuracy as the original parts. Make sure of this by using only *genuine* parts for the Eclipse Bendix Drive.

Approximately Twice Actual Size

ECLIPSE MACHINE COMPANY, ELMIRA, N. Y.  
Eclipse Machine Co., East Orange, N. J.      Eclipse Machine Co., Ltd., Walkerville, Ont.

# MOTOR AGE

Vol. LIV

Reg. U. S. Pat. Off.  
Established 1899

No. 16

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MOTOR AGE is published every Thursday by  
**CHILTON CLASS JOURNAL COMPANY**  
Chestnut and 56th Streets, Philadelphia, Pa.

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J. S. HILDRETH, Vice-Pres. and Director of Sales  
W. I. RALPH, Vice-Pres. DAVID BEECROFT, Vice-Pres.  
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Telephone.....Sherwood 1424

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New York—U. P. C. Bldg., 239 W. 39th St., Phone Pennsylvania 0080  
Chicago—5 South Wabash Ave., Phone Central 7045  
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Owned by United Publishers Corporation, 239 West 39th Street, New York; ANDREW C. PEARSON, Chairman, Board of Directors; FRITZ J. FRANK, President; C. A. MUSSELMAN, Vice-President; F. C. STEVENS, Treasurer.

**SUBSCRIPTION RATES:** United States, Mexico and U. S. Possessions, \$2.00 per year; Canada, \$5.00 per year. All other countries in Postal Union, \$6.00 per year. Single Copies, 35 cents.

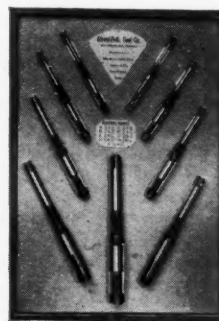
COPYRIGHT, 1928, CHILTON CLASS JOURNAL COMPANY  
Member of the Audit Bureau of Circulations  
Member Associated Business Papers, Inc.

Subscriptions accepted only from the Automotive Trade  
Entered as Second Class Matter, June 2, 1927, at the Post Office at Philadelphia, Pa., under Act of March 2, 1879.

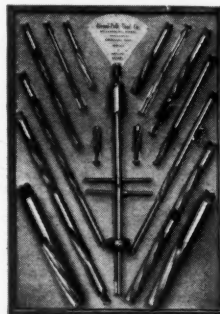
## Have you seen the Complete A-P Line on Display at your wholesalers?



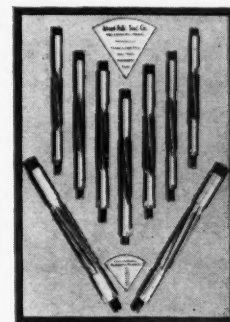
No. 1—16 Valve Stem  
Guide Reamers As-  
sorted—\$20.00



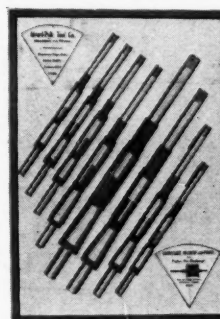
No. 4—9 Adjustable  
Reamers A to L—  
\$21.00



No. 2—20 Ford Tools  
Assorted—\$27.00



No. 5—9 Popular  
Sizes Expansion Pis-  
ton Pin Reamers—  
\$43.65



No. 3—8 Adjustable  
Piston Pin Reamers  
with Pilot—\$39.00

These **5**  
Boards

## Simplify Your Buying

Be sure to look the complete A-P line over next time you get into your jobber's. He has it displayed so that you can see, feel and handle the tools that are best adapted to your exact requirements. Here is your chance to get just what you want, don't miss it!

**ALVORD-POLK TOOL COMPANY**  
Millersburg, Pa.

## ALVORD - POLK

Tools for Repair Shops



A Budd-  
designed job has  
a great deal more  
than beauty—it has  
sales points no other  
body job possesses!

---

EDWARD G.

**BUDD**

MFG. CO.

*Philadelphia and Detroit*



# 5 World Records of PRESIDENT EIGHT

*confirmed by the  
International Association of  
Recognized Automobile Clubs (PARIS)*

—❧—

## Outselling every other eight-cylinder car in the world!

**F**IVE world records for stamina and speed—the greatest for any class of car for all time—this is the tribute received from the International Association of Recognized Automobile Clubs (Paris) as a result of The President's run of 30,000 miles in 26,326 consecutive minutes.

With such brilliant proved performance, offered as low as \$1685, it is not surprising that President Eight registrations have taken the lead over every other eight-cylinder car in the world.

And not only The President, but all Studebaker models, are winning new

"constituents" for Studebaker dealers—the Erskine Six at \$835 to \$1045; the new Dictator at \$1185 to \$1395; and the famous Commander at \$1495 to \$1665. *Each month for the past 13 months Studebaker sales have exceeded those of the year previous!*

A special contract for small towns and villages gives you the sales opportunity for Studebaker's complete line of passenger cars plus a full line of commercial units—yet with special concessions in the way of used car sales, service facilities, etc.

Write today for the facts about this unique Studebaker franchise.

Department 51

THE STUDEBAKER CORPORATION OF AMERICA, South Bend, Ind.

# **STUDEBAKER**

---

# 3<sup>rd</sup>

*in Cook County, Illinois*  
(CHICAGO)  
**NEW CAR registrations**  
*during* **SEPTEMBER**

NASH is the most envied franchise in the industry today. *Just look at sales in Cook County (Chicago), Illinois.*

New car registration figures for September show that Nash has shot ahead of every other make except Ford and Chevrolet.

Third place for the Nash "400"! First place among cars of its price! Here, indeed, is the "buy" of the year among all new cars in the market.

*And rightfully so!* Nash is the car with the Twin Ignition motor

(12 spark plugs, two ignition coils).

Nash is the car with those masterpieces of custom coachcraft—Salon enclosed bodies.

Nash is the car that everyone is praising for its super-ease of steering and riding.

It's not too late to climb on the Nash "400" band-wagon. Write the Sales Department today. Get the details on the franchise of the world's new and finer and faster-selling motor car.

THE NASH MOTORS COMPANY  
*Kenosha, Wisconsin*

# NASH "400"

*Leads the World in Motor Car Value*



# New Departure Ball Bearings



## A Nation-Wide Hook-Up

Here is a network that broadcasts, not sound, but real bearings service for the automobile and industrial trade.

United Motors Service authorized distributors of New Departure Ball Bearings, 800 strong, strategically located in every corner and center of the old U. S. A.!

Stocked, equipped and trained to give careful, courteous and *prompt* service in every emergency.

Now, before you need another bearing, get acquainted with your nearest United Motors Service distributor. Write for his name and New Departure's two helpful books for the service station.

THE NEW DEPARTURE MFG. COMPANY, BRISTOL, CONNECTICUT



*This powerful windshield wiper has two vertical blades that wipe from side to side—draining as they wipe. Each blade has five plies of rubber (a Trico patented feature). All Visionalls now being shipped to dealers are high-speed, self-oiling models—with simplified installation.*

# You can make a quick clean-up!

## *Here is the trade-in offer*

*Dealers are now authorized to allow \$2.50 for an old windshield wiper on purchase of a new Trico DeLuxe Visionall at \$12.50. Mail the coupon now for interesting details of this profitable plan.*

*by using our liberal  
trade-in allowance plan*

**YOU'VE** seen the Visionall advertised in the Saturday Evening Post for many months. Now you have a chance to cash in quickly on this national advertising of the world's finest windshield wiper! Read these brief details of our trade-in offer. Then mail the coupon for complete information. Do it now!

## MAIL THIS COUPON

Trico Products Corp.  
817 Washington Street  
Buffalo, New York.

Please send me complete details of your trade-in plan on the Twin DeLuxe Visionall.

Name .....

Address .....

TRICO  
**VISIONALL**  
*Twin-Blade Windshield Wiper*

# MOTOR AGE

VOLUME LIV

Philadelphia, October 18, 1928

NUMBER 16

## Third Quarter Largest Known

Total for Past Nine Months  
Just Under 1926  
Figures

### TRADE STILL HOLDS

NEW YORK, Oct. 13.—With the production of 460,000 cars and trucks in September indicated by the preliminary estimates, the total for the third quarter of the year is brought to about 1,365,500, the largest quarter the automotive industry has ever had. Total production in the first nine months is brought to approximately 3,687,000 as against 3,712,984 in the same period of 1926, the record production year.

October operations are continuing at close to capacity rates and schedules for the month show little change from September. This is due in part, however, to orders carried over from September by many companies and a declining rate is looked for as the month progresses. There is little question but that the 349,091 total in October, 1926, will be exceeded, and that the totals in the last three months of the year will carry 1928 to a new high record.

Increasing operations by Ford will have an important effect in carrying the year to a new high record. The company is now building upwards of 5500 daily in its United States and Canadian plants and all its assembly plants throughout the world are operating. The company built more than 100,000 vehicles in September and its orders are continuing several months ahead of production.

### Dry Alcohol Defeats Knock

WASHINGTON, Oct. 13.—A dry alcohol claimed to be an ideal anti-knock ingredient for mixture with gasoline is reported to have been developed by a British concern, according to advices received by the Department of Commerce from London. Among claims advanced for the product is that experiments made by the firm developing it had shown that alcohol is twice as efficient as benzol in preventing knocking in an internal combustion engine. The outstanding feature of the discovery, it is reported, is a process for drying alcohol, perfected in France, whereby the 7 per cent water contents in alcohol is removed at a very small cost so that more than 99 per cent absolute alcohol is obtained which can be mixed with gasoline in any proportion.

### *Crying Need of Cheney, Wash., is Hitching Posts*

+ - + - +  
CHENEY, Washington, a thoroughly live country town, has progressed too fast. There are some live automobile dealers in town and town-folk and farmers are pretty well equipped with motor transportation.

So the town hitching racks were abolished. Now come the farmers who haven't been motorized and make a protest to the Commercial Club of Cheney. That organization has taken upon itself to see that hitching posts, and plenty of them are installed at once.

Incidentally, Cheney's automobile dealers expect to use the hitching posts as prospect files.

### Plan Lease Financed Road

WASHINGTON, Oct. 12.—A proposed four-lane transcontinental highway which will permit a two-way fast traffic for tourist and non-truck vehicles and a two-way traffic for trucks and other heavy vehicles is provided for in Senate Bill which will be acted upon in December. The bill makes a suggestion for financing the proposition by means of roadside leases. This project would embrace the Federal Government taking a 500 ft. right-of-way trip across the whole country, using 100 ft. of that amount for the actual roadway and leasing the remaining 200 ft. for business purposes.

### N.S.P.A. Booster Frolic

CLEVELAND, Oct. 15.—The occasion of the National Standard Parts Association convention in Cleveland, Oct. 29 to Nov. 2 has prompted the Cleveland Automotive Boosters Club No. 16 to sponsor an evening of entertainment for the trade visitors to this city.

Arrangements have been made for a stupendous "N.S.P.A. Booster Frolic." It will start at 10:30 p.m. Tuesday, Oct. 30 in the main ballroom of the Hollenden Hotel and last until it's over.

### Foote Appoints Tischer

CHICAGO, Oct. 15.—Foote Bros. Gear & Machine Co. has appointed A. H. Tischer, Indianapolis, to represent them in Indiana.

## Comer Killed in Crash at Salem

Spills Stop Classic at 50 Miles;  
Keech, Gleason, Evans  
Injured

### WOODBURY WINNER

By Nelson Riley

Staff Correspondent MOTOR AGE

ROCKINGHAM SPEEDWAY, SALEM, N. H., Oct. 13.—Fred Comer, the "Kansas Cyclone," veteran of many great races, was killed today, 20 minutes after the start of the annual 200-mile race and Ray Keech, holder of the world's mile speed mark, and Jimmy Gleason were injured.

The race only went 34 minutes before the astounding number of bad spills forced the officials to stop the proceedings for the day, and there was not a murmur of dissent in the vast crowd. The distance covered was 62½ miles. The officials decided to call it a fifty-mile race and as Cliff Woodbury, the 32 year old driver from Chicago, holder of the dirt track record of the American Automobile Association and the proud daddy of three daughters, was leading at that time, he will collect one-third of the winner's share.

During the brief time that 17 of the world's most daring race drivers were tossing dice with death on the 1¼-mile  
(Continued on page 26)

### Raybestos Equipt. Clinic Held

NEW ORLEANS, Oct. 13.—Interstate Electric Co. of New Orleans held a Raybestos brake testing equipment clinic recently.

This was a practical demonstration of the Raybestos brake testing machine, brake drum truing lathe, countersinking and riveting machine, together with display of the Universal set of wheel pullers.

The Raybestos Co. cooperated by sending their factory engineer to demonstrate the brake tester, many garage men and mechanics attended and showed considerable interest in brake testing equipment.

The Interstate Electric Co. report many sales of the Raybestos machine.

### Philadelphia Show

PHILADELPHIA, Oct. 13.—The twenty-eighth annual automobile show under the auspices of the Philadelphia Automobile Trade Association will be held at the Commercial Museum, January 12 to 19. The show will not have a shop equipment exhibit this year.



## Six States Will Ballot on Roads

**\$330,000,000 Expenditure Proposed; Chapin Says Bonds Are Popular**

NEW YORK, Oct. 15—Voters in six states will be called upon in the coming election to pull their highways "out of the mud," according to Roy D. Chapin, chairman of the highway committee of the National Automobile Chamber of Commerce in his report read before the members' meeting this week.

Highway bonds, totaling \$330,000,000 are proposed in these various states, to be expended for the immediate completion of state highway systems.

In addition to these projects there are movements on foot in five or six other states looking to the issuance of more than \$500,000,000 in bonds in highway improvement, according to a statement made by Mr. Chapin.

Iowa heads the list with a call for a \$100,000,000 bond issue to retire a \$60,000,000 issue now standing and to surface additional roads, with the expectation of hard surfacing some 4800 miles and graveling another 1800 miles.

Missourians will be called upon to vote an issue of \$75,000,000 to complete surfacing its state system and to widen roads in special metropolitan areas, now considered too narrow.

Colorado is calling for \$60,000,000, Pennsylvania for \$50,000,000, West Virginia for \$35,000,000 and California for \$10,000,000.

In commenting on the situation Mr. Chapin says: "Strong sentiment seems to prevail too as to the advisability of saving five to ten years in the completion of the state system by means of the bond method. The result is actually a 'pay-as-you-go' plan but with the roads actually in service. The experience of states like North Carolina, where bonds were issued to pay for the state system, contrasts most favorably with other states where the fallacious doctrine of 'pay-as-you-go' in the ordinary sense still maintains. In those instances the motorist too often pays without going."

### Studebaker Erects Lab. Building

SOUTH BEND, IND., Oct. 13—Construction of a new unit of the South Bend plants to house engineering department offices and provide increased facilities for the research engineering laboratories has been announced by The Studebaker Corp.

When the new building is completed early in November, 161,000 square feet of floor space will be available for Studebaker's new engineering headquarters. Removal of the laboratories from their present location was necessitated by the increased demand for space in the plants for sales and production.

### Advanced



W. K. Erdman

**W. K. ERDMAN**, formerly division manager of Eastern branches of the Studebaker Corp. of America, has been appointed manager of the New York retail branch, succeeding E. J. Murnane who has resigned.

### Musselman N.S.P.A. Speaker

DETROIT, Oct. 9—C. A. Musselman, president of Chilton Class Journal Co., will speak at the trade press dinner given by the National Standard Parts Association, in Cleveland, Oct. 28, preceding its convention, Oct. 29 to Nov. 2. Speakers at the convention sessions include J. D. Carson of N. W. Ayer & Son; Dr. Hugh P. Baker, U. S. Chamber of Commerce; Chester Leasure, editor of Nation's Business; John E. Echlin, Tom Duggan, W. E. McIlroy, R. A. Kiken and L. T. White, president of the N.S.P.A.

### A.E.A. Convention Festivities

CHICAGO, Oct. 12—"A night on Mars," consisting of a great carnival and frolic in futuristic, ultra-modern style, will be a personally conducted tour of that planet by the Automotive Equipment Association entertainment committee. Mars, with its Royal Family, its Chessmen, its gruesome monsters with eyes in their finger-tips, and its hitherto undisclosed wonders, will be brought into Chicago for a night on October 25, when the members of the Automotive Equipment Association, attending the 13th Annual A.E.A. Convention, will be treated to a sight of life on that planet.

Those in charge of the affair modestly claim that it will be the greatest in the history of A.E.A. festivities.

## Durant-Amilcar Form Agreement

**Move Gives Durant 135 Dealers in France and Control of Amilcar in U. S.**

NEW YORK, Oct. 13—William C. Durant has made arrangements with the Amilcar Co. of Paris, giving the Durant car representation in France and giving the Durant company control, manufacture and sale of the Amilcar in the United States, according to cable advices received from him at his office here yesterday.

This gives the Durant car distribution through 135 Amilcar dealers in France and it is reported that the Durant company will begin the manufacture of the Amilcar line in this country within a few months.

### German Club Men Here

NEW YORK, Oct. 9—One hundred and thirty-one members of the Allgemeiner Deutscher Automobil Club arrived Saturday on the S. S. Muenchen for a three weeks' tour of this country under the auspices of the American Automobile Association. Monday and Tuesday of this week were spent in visits in and around New York as guests of the automobile association, after which they will visit Philadelphia, Washington, Columbus, Cincinnati, Indianapolis, Chicago, Detroit, Hamilton (Ont.), Niagara Falls and Binghamton. This tour will be made entirely in the Yellow Cab & Coach Company's buses. The delegates consist of prominent business men, educators and manufacturers of Germany who are interested in one way or another in the problems of the motorist.

### McCord and Warner Speak

PHILADELPHIA, Oct. 10—The Pennsylvania Section of the Society of Automotive Engineers held its monthly meeting last night with Commander McCord, of the naval aircraft factory, and E. P. Warner, assistant secretary of the Navy for aeronautics, as speakers. The meeting was presided over by J. H. Geisse, chief engineer, aeronautical engine laboratory, naval aircraft factory.

### To Offer New Piston

CINCINNATI, Oct. 8—Aluminum Industries, Inc., is soon to offer a new type aluminum piston under the Permite trade mark. The company has increased its plant capacity by the addition of a new building that has cost approximately \$75,000.

### Ford Adopts Bendix Drive

DETROIT, Oct. 9—Ford Motor Co. has adopted the Bendix type starter drive and is now equipping all its production. Former types and parts affected are obsoleted.



### Erskine Six Royal Sedan

*A NEW model recently announced by the Studebaker Corp. The Autumn color scheme of the Royal Sedan is Alcona gray and sable, with deep orange wire wheels and orange and ivory striping. Adding to this color harmony and emphasizing the graceful upper wide contours of the body are window reveals in Ute brown. The wide crown fenders, hood, cowl and running gear are finished in darker sable, which is also used on the belt molding and graceful cowl beading to emphasize the low hung appearance of the body lines*

#### Clair R. Savage Moves East

LOS ANGELES, Oct. 15—Clair R. Savage, for many years sales manager of the Los Angeles division of J. W. Leavitt & Co., distributors of Whippet, Willys-Knight and Stearns-Knight cars, has been made general manager of this organization. The appointment was announced as the result of L. V. Starr, vice-president and general manager of the Leavitt company, becoming general manager of United Chromium, Inc., and leaving for New York. Mr. Starr still retains his interest in the Leavitt company. Carl Wolff, who was formerly assistant sales manager, has been named sales manager.

#### Car Exhibitors Pleased

SPOKANE, WASH., Oct. 12—Spokane automobile dealers who exhibited cars at the Spokane Interstate Fair, were well pleased with results. The gates registered the greatest attendance the fair has ever shown. A considerable drive-away of new cars was made during the week.

#### Coast Dealers Visit Buick

DETROIT, Oct. 14—Fifty-five dealers affiliated with the Eldridge Buick Company, distributors in the Pacific Northwest, were in Flint last week for a three-day visit at the Buick plants. The dealers visited the General Motors proving ground near Milford where they saw the new Buick being tested and made a tour of inspection of the Buick factories.

#### Multibestos Has Molded Lining

WALPOLE, MASS., Oct. 13—Molded brake liners for popular passenger cars and trucks equipped with 12 in., 14 in. and 15 in. internal hydraulic Lockheed brakes have been placed on the market by the Multibestos Co., Walpole, Mass. These molded liners have been developed through laboratory and road tests for several months. The wear factor is extremely low, the frictional qualities and braking action is excellent, assuring a smooth, easy stop. The lining is practically noiseless even under extremely heavy pressure, and there is no indication of any tendency to scratch or score the drum.

The entering end of each liner has been tapered to insure smooth engagement and to eliminate chatter. While Multibestos molded lining drills easily, it might prove a difficult job for the average mechanic to secure the proper alignment of holes between lining and shoe due to the fact that the liners are curved to fit the contour of the shoe. Therefore, these liners have been drilled and counterbored according to exact factory specifications.

#### Olds Adopts Carry-Away

LANSING, Oct. 13—"Carry-aways" have been adopted at the Oldsmobile factory to escape road hazards in territories closely adjacent to the factory.

The "carry-away" system is being handled by the Contract Cartage Co. of Lansing. The equipment consists of a GMC truck-tractor and a trailer long enough to carry four Oldsmobiles. The trailers are equipped with rear skids.

#### \$1,000,000 Garage Permit

JERSEY CITY, N. J., Oct. 13—Revision in builder's plans call for an entrance on Bergen Ave., instead of on Academy St., as was originally planned, prompted residents in the vicinity to withdraw objections to the erection of a \$1,000,000 garage at 71 Bergen Ave., and the city commissioners granted permission to build.

Harry Hestler and Henry Burstyn of Union City are at the head of the new garage which will be eight stories in height and furnish accommodation for more than 800 cars.

Ramps will be used and the garage will be welcomed in that section, which, in the past few years, has grown so rapidly that garages there were unable to care for the demand.

Plans for the new structure call for building operations to go forward immediately and the work will be expedited.

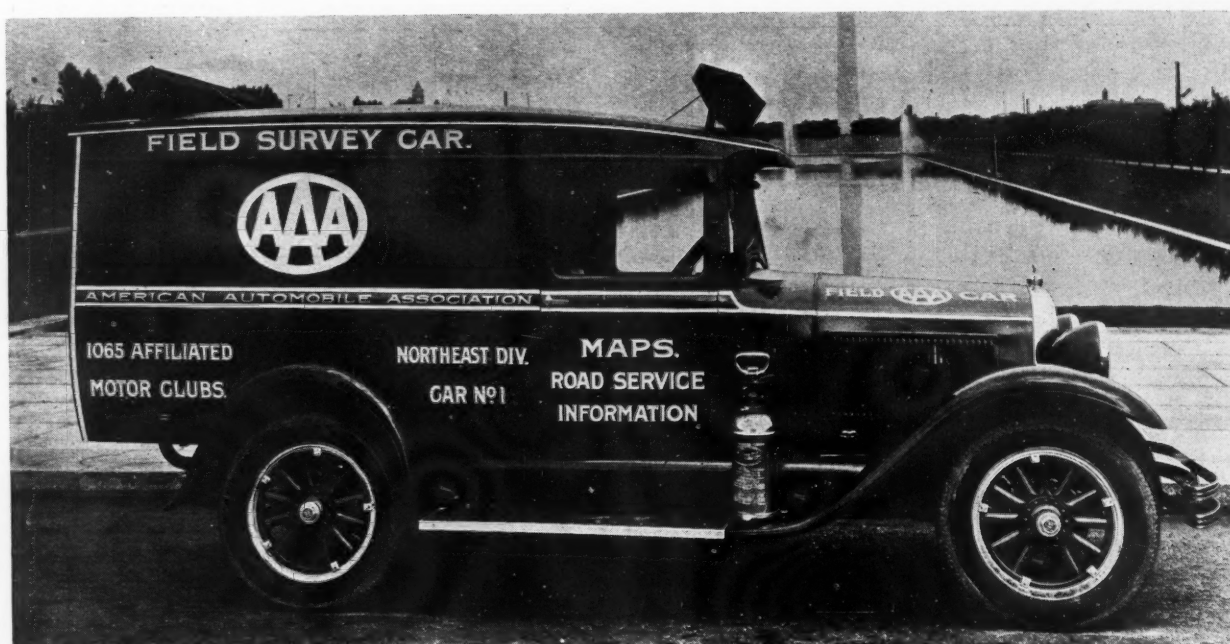
#### Motor Club Adds 200

NEWARK, Oct. 13—The New Jersey Automobile and Motor Club added 200 members to its rolls at the October meeting of its membership committee. The membership campaign will continue until Nov. 15. Since May 1 nearly 1000 new members have been added to the club.

#### Soper Joins Gardner

ST. LOUIS, Oct. 12—The appointment of Fred D. Soper as manager of the Northern sales division of the Gardner Motor Co., Inc., is announced by F. H. Rengers, general sales manager of the company.





### A. A. A. Gets Road Car

*THIS new Studebaker service car, recently put into commission by the A. A. A., will be of service to the members of that association touring the northeast division. Maps and information will be distributed from the car and certain road service will be given to members*

### Number Clutch Facings

NEW YORK, Oct. 15—The Asbestos Brake Lining Association is developing a standardized numbering system for clutch facings in conformance with the resolution adopted at the last meeting.

According to this system all facings for a particular type of clutch, regardless of by whom the facing is made, will bear the same number.

It is also the plan of this association to establish uniform list prices for this clutch facing, leaving to the individual manufacturer, however, the question of trade discounts. The new list will be in effect by January 1, 1929.

### New Name for Bean Co.

LANSING, Oct. 13—For more than forty years there has been more or less confusion in connection with the use of the word BEAN in the firm name of the Bean Spray Pump Co., whose factories are at San Jose, Cal., and Lansing, Mich.

In recent years the old name of the company seemed very inappropriate due to the variety of automotive equipment manufactured by it.

The name of the company has been changed to John Bean Mfg. Co., to include the many other products manufactured, including a variety of automotive devices, car washers, air compressors, air lift jacks, brake testers, complete service station equipment.

There has been no change in the organization or policies of the company and the officers of the company remain as before.

### Bear Mfg. Co. Has School

ROCK ISLAND, ILL., Oct. 13—The Bear Manufacturing Co., manufacturers of wheel aligners and equipment for lining up axles, has established a school for mechanics and technical men, in the lining up of axles. No charges are made, and the complete course takes only two days. Those attending recently include men from Michigan, Florida, Iowa, Illinois and Connecticut.

### Camden Cadillac in New Place

CAMDEN, N. J., Oct. 13—The Camden Cadillac Co., 1861 Haddon Ave., of which H. J. Harvey of Audubon, is president, is established in a new home, which includes every modern development in automobile sales and garage service. The building is 30 x 83 ft. and affords ample space for a good display of eight cars.

In addition to private and sales offices, there is a parts department and a completely equipped machine shop with portable and overhead cranes, brake lining and valve grinding machines, and all minor equipment necessary to the handling of any repair work.

### Kull Gets Reo Appointment

OKLAHOMA CITY, Oct. 15—A. E. Kull has been named sales promotion manager of the Reo Motor Car Co. and will assume his duties Nov. 1. This is a newly created position. Mr. Kull has been manager of the Reo-Kull Motor Co. of Oklahoma City since January, 1927, and has been with the Reo organization six years.

### Schmidt Handles Studebaker

DETROIT, Oct. 13—The Studebaker Corp. of America announces the appointment of the Iver Schmidt Automobile Sales Co. as new distributors for Memphis, Tenn. Two salesrooms and service stations will be maintained there. Mr. Schmidt is well-known among business men in Memphis; has been engaged in the automobile business for twelve years, ten of which were devoted to the distribution of Studebaker cars.

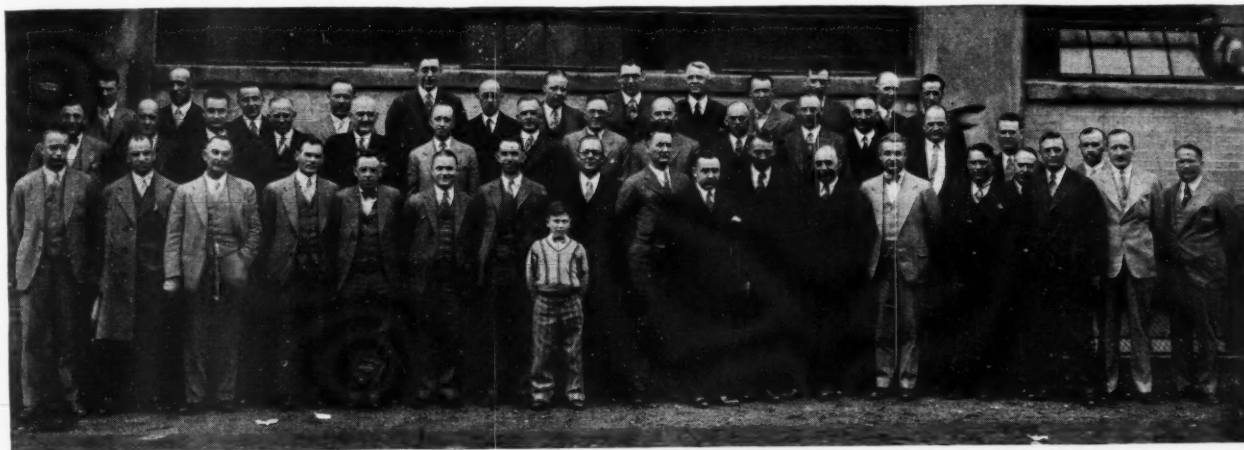
### Distributor Incorporates

COLUMBUS, Oct. 13—The Rhulman Motors, Inc., capitalized at \$30,000, has been formed for the purpose of distributing the Whippet and Willys-Knight line in Columbus. The salesroom and service station will be located at Third and Chestnut Sts. Incorporators are P. M. Rhulman, L. G. Rhulman and H. M. Bennett. The company will distribute parts for these lines in central Ohio. There will be a number of sub-dealers in Columbus.

### Willys to Sell Stearns

CLEVELAND, Oct. 13—Plans have been worked out for the distribution of Stearns-Knight cars by the larger dealers of the Willys-Overland Co. dealer organization. Overland organizations in Canada and Great Britain will also combine sales in those countries and the Willys-Overland Export Corp. will sell throughout the world, according to a recent announcement made by the company.





### Coast Dealers at Plant

*DEALERS of the Eldridge Buick Co., of Seattle, Pacific northwest Buick distributor, who paid a three-day visit to the Buick plant in Flint last week, included the AC Spark Plug Company's plants in their itinerary. Forty-three dealers are shown here with AC executives, just before viewing factory operations*

## Automobile Salon Has Foreign Cars

Five European Manufacturers  
to Display Models at  
N. Y. Body Show

NEW YORK, Oct. 11—Six nations will be represented in the 24th annual automobile salon to be held in New York Dec. 2 to 8, according to announcement just made by John R. Eustis. France, Italy, Belgium, England, Germany and the United States will all be represented in this salon. Chassis to be included in this exposition will include: Cadillac, Chrysler 80, Cunningham, Duesenberg, Franklin, Isotta Fraschini, LaSalle, Lincoln, Mercedes, Minerva, Packard, Pierce-Arrow, Renault, Rolls-Royce, Stearns-Knight and Stutz. Special custom coach work exhibits will be made by Brewster, Brunn, Castagna, Derham, Dietrich, Fisher, Fleetwood, Holbrook, Judkins, Le Baron, Locke, Murphy, Rollston, Weymann and Willoughby.

### Studebaker Picnic in Mass.

PITTSFIELD, MASS., Oct. 13—The Studebaker family of Pittsfield, Mass., recently had a reunion in the form of a picnic at Brotherhood farms, owned by F. N. Hillman, Sr., Studebaker dealer of the city. One hundred and three automobiles were counted, and it was estimated that 400 people were present.

### Franklin Stages Salons

SYRACUSE, Oct. 15—Sixteen cities of the country have been designated by the Franklin Automobile Co. for special salons which will feature the new Airman Limited models. These salons have been arranged by the various Franklin distributors in these cities

through special arrangement with the factory. The initial salons began the week of Oct. 1 at Boston, New York, Brooklyn, Buffalo, Providence, Portland, Ore., and Cincinnati and will be followed during the month by special salons at Dallas, Philadelphia, Pittsburgh, Chicago, St. Louis, Los Angeles, San Francisco and Albany.

The salon which opened in the national capital on October 8 is a special exhibit with attention centered on the remarkable advancement of the air-cooled airplane engine that was used in the plane of Commander Byrd when he conquered the Arctic wastes and flew across the North Pole.

### Sparks Income \$1,212,606

JACKSON, Oct. 15—Sparks-Withington Co. reports net income for the year ended June 30, after all charges, as \$1,212,606. This is equivalent to \$8.03 a share on common stock, which compares with 43 cents a share for the six months ended June 30, 1927, and with \$1.23 a share for the year ended Dec. 31, 1926. The fiscal year was changed June 30, 1927.

### Mfgs. Back Truck Club

NEWARK, N. J., Oct. 13—Support for the Motor Truck Club of New Jersey in its membership campaign was accorded by a number of truck and commercial car manufacturers' representatives in this city and vicinity. The dealers attended a luncheon meeting at the New Jersey Automobile Club, and with Alfred D. Way, club secretary, mapped out a program to canvass every truck owner and commercial car dealer in the state.

### Car Exhibitors Pleased

SPOKANE, WASH., Oct. 15—Spokane automobile dealers who exhibited cars at the Spokane Interstate Fair were well pleased with results. The gates registered the greatest attendance the fair has ever shown.

## Durant Ships 500 Carloads in Week

1928 Models Cleaned Out  
Advancing Date of '29  
Series

NEW YORK, Oct. 11—Five hundred carloads of automobiles left the Durant plant in Elizabeth, N. J., during the week between Sept. 14 and 22, it has just been disclosed by H. J. Shorter, in charge of Durant sales for the Atlantic seaboard.

This unusually large shipment was necessitated by the fact that dealers had cleaned out stocks of 1928 model cars earlier than anticipated and that the announcement date of 1929 models is, therefore, advanced considerably. It was necessary to make these large shipments in order that all dealers might be supplied with the new model cars at the time the announcement was made.

### Neal Nash Instructs Ladies

SAN ANTONIO, Tex., Oct. 13—The Jack Neal Nash Co. has recently equipped an instruction car for use in the company's ladies' free driving school, classes in which will run through October. The company has used such a car in the driving school during the last four years. A feature of the construction of the car is that the instructor has complete control of the car at all times, there being two steering wheels, two brakes and clutch pedals, etc. Interest manifested by ladies, desiring to learn to drive, in past schools, caused the company to organize classes this year. A competent driving instructor is provided, and when a woman attains the required degree of driving efficiency and passes a satisfactory written examination, she is given a certificate by the company.

## A.E.A. Convention at Hotel Stevens

### Merchandising and Distribution Problems Main Issue; Merger Details

CHICAGO, Oct. 13—The Thirteenth Annual Convention of the Automotive Equipment Association to be held in the Stevens Hotel, Chicago, October 22-27, while devoting considerable of its time to the discussion of the new problems facing the Motor and Equipment Association, recently formed by the completion of merger proceedings of the A.E.A. and the Motor and Accessory Manufacturers Association, will keep as its theme the discussion of new merchandising and distribution problems and their relations to the various interests in the automotive equipment field, it has been announced by the committee in charge.

Sessions for the conventions will be confined to mornings this year, according to the committee, and two full days will be held open. These moves were purposely made to allow members attending the convention to devote the major portion of their time in attending the Tenth Annual Exhibit of Automotive Products at the Coliseum, which show is being held in conjunction with the convention. The coupon system of attendance will remain for the Exhibit the same as it has in the past. Arthur C. Storz, president of the Automotive Equipment Association, will open the convention at ten o'clock Monday morning, October 22, at which time he will deal thoroughly with the particulars in connection with the completion of the merger between the Automotive Equipment Association and the Motor and Accessory Manufacturers Association.

### National Oil & Supply Expands

NEWARK, N. J., Oct. 13—The National Oil & Supply Co. has leased the entire first floor of the building at the southwest corner of Frelinghuysen Avenue and Bigelow Street for executive offices. The space formerly used as office space in its own building across the street will be used for additional warehouse purposes.

### Franklin Dealer Killed

PITTSFIELD, MASS., Oct. 13—Norman K. Morse, president and treasurer of Fred K. Chaffee, Inc., Franklin dealer, was instantly killed on the night of Oct. 8 in Lenox when, being blinded by the headlights of an approaching car, his car crashed into a truckload of lumber ahead and a piece of lumber protruding five feet from the rear of the truck broke through his windshield and fractured his skull. The truck driver was arrested, charged with violation of the registration and insurance laws.



*ELEANOR SMITH, seventeen, aviatrix, who recently established an American altitude record for women when she soared 11,663 feet over Long Island, is shown about to leave the airport in her Chevrolet. Just a few weeks later the Chevrolet Motor Company built its five millionth car, which happened to be a coach model, similar to the one used by Miss Smith*

## Record Makers

### A.M.A. of N. Y. Ends Season

NEW YORK, Oct. 13—The Automobile Merchants Association of New York will hold the final golf tournament of the season at the Winged Foot Golf Club in Mamaroneck, N. Y., Tuesday, October 16. For the purposes of the tournament two 18-hole courses will be available. This tournament will have no 9-hole contest in the morning, as has been the practice during the earlier tournaments of the season.

### Russell Huffman on Tour

NEW YORK, Oct. 12—Russell Huffman of the legislative committee of the National Automobile Chamber of Commerce is visiting local organizations functioning under the Motor Vehicle Conference Committee throughout the Western states. His itinerary will cover Chicago, Minneapolis, Fargo, Pierre, Sioux Falls, Cheyenne, Salt Lake City, Pocatello, Boise, Helena, Butte, Seattle, Portland, San Francisco, Reno, Los Angeles, Phoenix, Grand Canyon, Santa Fe and Albuquerque.

### Weaver-Wells Co. Building

OAKLAND, CALIF., Oct. 13—Weaver-Wells Co., agents for the Studebaker motor car, have under construction a new building on automobile row.

The building is well under way and is expected to be ready for occupancy early in January. It will cover 70,000 square feet of space and cost approximately \$350,000. Except for the basement and a mezzanine floor, the entire building will be on one floor, though there will be slight rises from one department to another, and it will be so constructed as to take care of all departments under one roof. The showroom will have a frontage of 104 feet on Broadway and of 60 feet on the side street.

### Glancys at European Show

DETROIT, Oct. 12—A. R. Glancy, president and general manager of the Oakland Motor Car Company, has sailed for Europe with Mrs. Glancy, to attend the European Automobile Shows.



## Baltimore Assn. Now State Wide

### Southern Dealers Become Automobile Trade Ass'n of Md.

BALTIMORE, Oct. 12—After 18 years of most effective service to dealers in Baltimore and surrounding territory, during which time the organization has made steady growth, the Baltimore Automobile Trade Association, Inc., has now been expanded into a state-wide body. The step is a most important one, as it brings together a large majority of the automobile and automotive dealers throughout the state in the one body. For some time the Baltimore organization has been acting in an advisory capacity to the county dealers.

Alexander H. Bishop, for several years president of the Baltimore Association, now heads the state-wide body, which is known as the Automobile Trade Association of Maryland. E. T. Backus is vice-president and Harter B. Hull is secretary-treasurer. John F. Raine, who was secretary of the city association, becomes general manager of the state body. The Baltimore headquarters at 1200 St. Paul Street have been taken over by the newly-formed organization. In addition to the officers mentioned the board of directors also includes Walter F. Kneip, Louis Fox, Thomas Wilson, Jr., and A. Stanley Zell.

### Hennecke to Direct Hollingshead Sales; Continues Own Co.

Earle V. Hennecke has joined the R. M. Hollingshead Co., manufacturer of Whiz products, Camden, N. J., as vice-president. Under Mr. Hennecke's direction the products of the company are expected soon to be distributed nationally through jobbers. Mr. Hennecke will continue to supervise the operation of his own company in New York.

### Clair R. Savage G. M.

LOS ANGELES, Oct. 15—Clair R. Savage, for many years sales manager of the Los Angeles division of J. W. Leavitt & Co., distributors of Whippet, Willys-Knight and Stearns-Knight cars, has been made general manager of this organization. The appointment was announced as the result of L. V. Starr, vice-president and general manager of the Leavitt company, becoming general manager of United Chromium, Inc., and leaving for New York.

### Reading Leaves Transport

SPOKANE, Oct. 15—Arnold Reading, general manager of the Transport Motor Co., Willys-Knight-Whippet distributor, has resigned to accept a similar position with the L. Y. Billingsley Motor Co., Willys-Overland sales agency in Portland.

## Studebaker Gets I.A.C. Recognition

### Five New World Records Made in 30,000-Mile Run Get O. K.

International Association of Recognized Automobile Clubs in Paris, according to the Contest Board of the American Automobile Association, has officially recognized the five new world records made by a strictly stock Studebaker President Eight roadster, one of four Studebaker President Eight models which covered 30,000 miles on the Atlantic City Speedway at average speeds ranging from 64 to 68 miles per hour.

International recognition was accorded the records made by the fastest of the four cars at five periods during the run. The new marks are as follows: 10,000 miles, average speed 68.82 m.p.h.; 15,000 miles, average speed 68.59 m.p.h.; 20,000 miles, average speed 68.55 m.p.h.; 25,000 miles average speed 68.47 m.p.h.; 30,000 miles, average speed 68.37 m.p.h.

According to A. H. Means, secretary of the Contest Board of the A.A.A., the International Association does not differentiate between special built racing cars and stock cars in record trials.

### Joins Trenton Company

TRENTON, N. J., Oct. 13—Trenton Auto Radiator Works has named American Steel Export Co., New York City, as foreign sales manager, succeeding Benjamin Hacker, resigned.

## The Automotive Calendar

### SHOWS

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27.  
Baltimore, 5th Regiment Armory, Jan. 19-26.  
Boston, Mechanics Bldg., March 2-9.  
\*Buffalo, N. Y., 174th Regiment Armory, Jan. 12-19.  
\*Chicago, National, Coliseum, Jan. 26-Feb. 2.  
Cincinnati, Music Hall, Jan. 13-19.  
Cleveland, Public Auditorium, Jan. 26-Feb. 2.  
Denver, Colo., Auditorium, Feb. 11-16.  
Des Moines, Iowa, Coliseum, Feb. 18-23.  
Detroit, Convention Hall, Jan. 19-26.  
\*Hartford, Conn., State Armory, Feb. 16-23.  
Kansas City, Mo., American Royal Bldg., Feb. 9-16.  
Los Angeles, Washington Park, March 2-10.  
Louisville, Ky., Armory, Jan. 21-26.  
Milwaukee, Wis., Auditorium, Jan. 12-19.  
Nashville, Tenn., Hippodrome, January.

National Standard Parts Association, Cleveland Auditorium, Oct. 29-Nov. 3.  
Newark, N. J., Jan. 12-19.  
\*New York, National, Grand Central Palace, Jan. 5-12.  
Peoria, Ill., Feb. 5-9.  
Philadelphia, Commercial Museum, Jan. 12-19.  
Quebec, Can., Drill Hall, Mar. 16-23.  
Saginaw, Mich., Auditorium, Feb. 27-Mar. 2.  
Salon, Automobile Salon, Inc., Hotel Drake, Chicago, Jan. 26-Feb. 2.  
Salon, Los Angeles Motor Car Dealers Assn., Biltmore Hotel, Oct. 17-20.  
Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles, Feb. 9-16.  
Salon, Automobile Salon, Inc., Hotel Commodore, New York, Dec. 2-8.  
Salon, Automobile Salon, Inc., Palace Hotel, San Francisco, Feb. 23-March 2.  
San Francisco, Civic Auditorium, Jan. 26-Feb. 4.  
Springfield, Mass., Municipal Auditorium, Feb. 25-March 2.  
St. Louis, City Market Bldg., Feb. 4-9.  
Syracuse, Feb. 4-9.

Ottawa, Canada, Feb. 4-9.  
Pennsylvania Automotive Association, Allentown, Pa., Oct. 15-16.  
\*Washington, D. C., Washington Auditorium, Jan. 26-Feb. 2.  
Providence, R. I., Cranston St. Armory, Feb. 13-16.

### CONVENTIONS

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27.  
National Automobile Dealers Association, Palmer House, Chicago, Ill., Jan. 28-29.  
National Standard Parts Association, Hollenden Hotel, Cleveland, Oct. 29-Nov. 3.  
National Tire Dealers Association, Boston, Mass., Nov. 19-22.

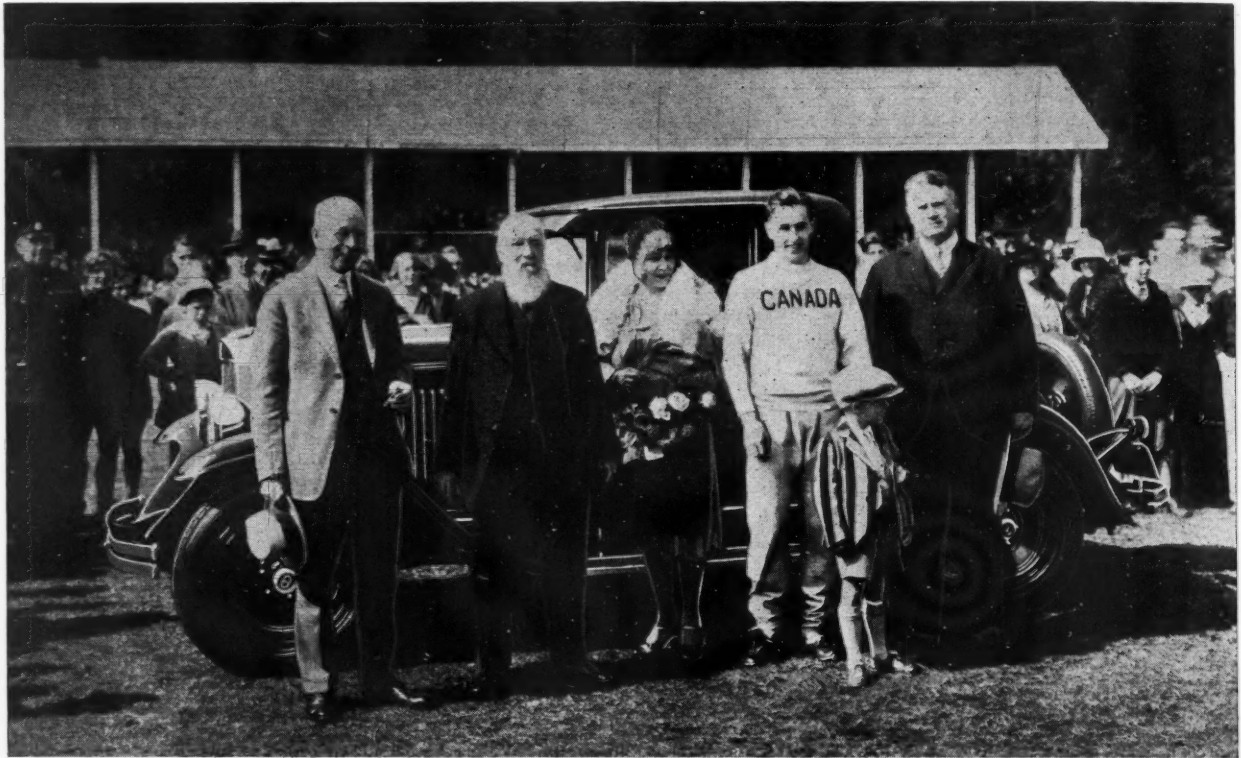
### S.A.E.

Detroit, Book-Cadillac, Annual Meeting, Jan. 15-18.  
Newark, Robert Treat Hotel, Transportation Meeting, Oct. 17-19.  
New York, Annual Dinner, Hotel Waldorf-Astoria, Jan. 10.

\*Will have special shop equipment exhibit.

Nov. 17—Production and Factory Equipment Issue—Automotive Industries.





### World's Fastest Sprinter Honored by Canadian City

*A GRAHAM-PAIGE coupe was chosen by the city of Vancouver to present to Percy Williams, 1928 Olympic sprint winner, as a mark of its appreciation of the Dominion's outstanding athletic hero. The welcoming and presentation address was made by Lt.-Col. Nelson Spencer, in the presence of the highest officials of the city and of the province*

### Coast Dealers Add Planes

LOS ANGELES, Oct. 15—Automotive firms are taking a leading part in the development of aviation in southern California and are becoming more and more active in the distribution of airplanes and aviation equipment.

Announcement is just made by Joseph Kreutzer of the reincorporation of his firm, which for years has specialized in the servicing of Buick automobiles, to be known as the Joseph Kreutzer Corp., with automotive and aeronautical branches. An airplane factory, aviation school and complete modern airplane motor-repair shop will be established. The field will provide facilities for private and commercial flying transport service.

Herbert R. Miller, Hudson-Essex dealer, announces that he has completed arrangements with the Arkansas Aircraft Corp., manufacturers of Command-Aire biplanes, for the distribution of that ship in California and Arizona.

The Harry Sperl Motors Company, Gardner distributors in southern California, has also established an aviation department and is distributor of a new plane in this territory.

Maddux, Inc., Los Angeles Lincoln dealers, pioneered in organized air transportation in this section, and are operating a large number of planes on regular passenger travel schedules between California cities.

The Western Auto Supply Co., operating a chain of automotive retail

stores throughout the West, recently announced the establishment of commercial aviation supply departments, and is going after this business in a vigorous manner.

### Headlights Cause Accidents

LOS ANGELES, Oct. 15—Statistics compiled by the California State Motor Vehicle Department show that headlights are directly responsible for 3 per cent of the fatal accidents and are a contributing factor of 10 per cent. A vigorous drive has just been launched by the state authorities to correct the headlight evil and 200 local community committees of the state safety conference are concentrating their activity to educational work on the subject.

### O'Hearne Promoted by Olds

MEMPHIS, Oct. 15—W. A. O'Hearne has been promoted to retail sales manager for the Memphis branch of the Olds Motor Works, succeeding R. G. Jones, who has been transferred to Atlanta. Mr. O'Hearne has been selling automobiles for 11 years.

### Milam Heads New Zone

PORTLAND, ORE., Oct. 13—W. S. Milam of this city, formerly district supervisor of the Billings zone of Willys-Overland, Inc., has been put in charge of a new zone composed of Washington, Oregon and part of Idaho.

### Pave 70 Miles in Week

CHICAGO, Oct. 15—A world's record in pavement building was recently established by Illinois when in one week 70.68 miles of concrete pavement were laid, state highway records show.

### Now Auburn-Fuller Co.

LOS ANGELES, Oct. 15—The name of the White Auto Co., southern California Auburn distributors, has been changed to the Auburn-Fuller Co. The change was made for the purpose of more closely identifying the organization with the line of cars handled.

Along with the change of name comes the announcement that William J. McGhee has been appointed general manager.

### Reo Promotes Sales Heads

LANSING, Oct. 15—Three assistant sales managers have been appointed by C. E. Eldridge, sales manager of Reo Motor Car Co., as follows: Carl Parker in charge of Speed Wagon sales; E. G. Poxson in charge of territorial analysis, and R. G. Hudson in charge of Canadian and export sales.

### Advertising Meeting Nov. 2

NEW YORK, Oct. 12—Advertising managers of the members of the National Automobile Chamber of Commerce will meet in Cleveland Nov. 2. Edward S. Jordan, president of Jordan Motor Car Co., will preside.

## Delco-Remy Makes Record Number

### Two-Way Shock Absorber is Newest Product for Cadillac

ANDERSON, IND., Oct. 11—Production of Lovejoy Shock Absorbers amounted to 578,600 units or 144,650 sets of four, for the month of September at the Dayton plant of the Delco-Remy Corporation, according to figures just given out by C. E. Wilson, president and general manager. More than 2600 workers were employed, Mr. Wilson stated, in the production of this record-breaking number of hydraulic shock absorbers for a single month.

Since the manufacture of Lovejoy Shock Absorbers was taken over by the Delco-Remy Corp. and the plant moved from Boston, Mass., to Dayton on July 1, 1927, production has been increased steadily. At that time only two cars were using Lovejoys as standard equipment. Today they are being used as standard equipment on 24 makes of passenger cars, while several others offer them as extra equipment. They are also used on three motor coaches and a number of trucks. The latest development by the Delco-Remy Corp. is a two-way shock absorber which is now standard equipment on the Cadillac car. This controls both the compression and the rebound of the car springs, providing unusually smooth riding qualities.

### G.-P. Forms German Corp.

DETROIT, Oct. 15—Graham-Paige Automobil g.m.b.h., a German corporation organized to operate an assembling plant and to distribute Graham-Paige cars throughout Germany, will begin operations shortly at Johannisthal, where a modern plant having 57,000 sq. ft. of floor space has been acquired. Johannisthal is an industrial suburb of Berlin, 18 miles from the capital. The plants of several other automobile manufacturers are there, as is also Ambi-Budd Presswerk, the German plant of the Edward G. Budd Mfg. Co.

Baron Edgar von Spiegel, general manager of the new plant, was the first Paige distributor in Germany, having been appointed Oct. 16, 1924, and has been connected with Paige and Graham-Paige in Germany continuously since then.

### Heads Studebaker Branch

DETROIT, Oct. 13—Announcement has been made by the Studebaker Corp. of the appointment of D. J. Willoughby as division manager in charge of Southern branches. Mr. Willoughby, who was formerly manager of the Boston branch, is succeeded in this capacity by G. E. Read, formerly branch manager at Omaha.



### Hupp Joins the Bright Lights

*A STRIKING addition to Broadway's Great White Way appeared recently when the new Hupmobile illuminated sign began to flash its brilliant lights on the front of the Hotel Claridge at Forty-fourth Street and Broadway. The sign, which measures 21 by 102 feet overall, is done in futuristic style and besides showing a Hupmobile Century roadster with two occupants carries in neon tube lettering the words "Hupmobile Century Six and Eight" —Van Alstyne Motor Corp., 1871 Broadway.*

### Bus Co. Takes to Air

LOS ANGELES, Oct. 15—The Pickwick Stage System, with headquarters in Los Angeles, operating one of the largest bus transportation systems in the world, has placed an order for ten passenger planes with the Bach Aircraft Co. of Los Angeles. Announcement of the award of the contract is the final confirmation that the big stage company is to invade the air. The Bach air yachts are to be powered with Pratt & Whitney "hornet" motors, developing as much as 600 horsepower. The Pickwick System plans to employ the planes in conjunction with its buses in transcontinental service.

### Cooper in L. A. for Simplex

LOS ANGELES, Oct. 15—Thomas C. Cooper, formerly connected with the Simplex Piston Ring factory at Cleveland, has been appointed vice-president and general manager of the local Simplex distributing organization in charge of sales. The local firm recently moved into larger quarters at 1818 South Grand Avenue.

### Take Durant and Star Lines

SPOKANE, WASH., Oct. 15—Yocum-Peterson, Inc., for the past three years dealers in Durant-Star cars in Walla Walla, have taken over the selling of Willys-Knight and Whippet cars in that territory. W. C. Yocum was for 11 years a traveler for Child, Day & Churchill, automotive equipment and accessory jobbing house, before going to Walla Walla three years ago to enter business for himself.

### Culver to Sell Auburn

ROCHESTER, N. Y., Oct. 15—Culver Motors, 775 Culver Road, has been appointed Auburn distributor for this territory. This firm also handles the De Soto car.

### Memphis Studebaker Changes

MEMPHIS, TENN., Oct. 13—In a deal involving more than \$1,500,000 in new and used car contracts to be handled within a year, the Automobile Sales Co., Stutz-Gardner distributor, has absorbed the Studebaker Sales Co. of Memphis. The merger makes the Automobile Sales Co. the largest motorcar distributor in the South and one of the largest in the country. Iver Schmidt, president; W. G. Fuller, vice-president, and H. S. Buchanan, secretary-treasurer and legal adviser of the Automobile Sales Co., will retain their present positions. Mort Hoffman, Studebaker manager, will return to the factory at South Bend. Office and sales force go over to the new company intact. Offices in the new Studebaker building at 1195 Union Avenue will be occupied by the Studebaker factory representative and the handsome showroom will continue to display the Studebaker-Erskine line. A new apportioning of sales zones gives the Memphis distributor eastern Arkansas, southeastern Kentucky, southern Missouri, northern Mississippi and west Tennessee. Mr. Schmidt announces that the company will retain the Stutz and Gardner lines.

### Rickelson Named by Auburn

SAN FRANCISCO, Oct. 13—R. S. Rickelson has been made general manager of the Auburn Company in California and Nevada.

### Ziesel Heads Western Sales

SAN FRANCISCO, Oct. 13—The Simonson Iron Works, manufacturers of the new Victory combination oil gage and choker extension for the Models A and AA Ford, have appointed the Louis J. Ziesel Co., of this city, as Western sales representative.



## Convertible Body Models Introduced by Chrysler

DETROIT, Oct. 13—Two convertible body models have been added to its "75" line by the Chrysler Corp. They consist of a phaeton sedan listing at \$2,245 and a convertible coupe listing at \$1,695. On the phaeton sedan the four front pillars are integral with the body, rear pillars top bows and side pieces folding back to be covered with a boot extending out over the back of the body when used as a phaeton. Front compartment windows are crank-operated while rear windows are either locked on the doors or are swung forward and locked to the back of the front seat to serve as a turnover windshield. Included in the standard equipment is a folding center arm rest for the rear seat and non-shatterable glass for the windshield.

Radiator core fenders and other exposed chassis parts of the convertible coupe are finished in black, body color being sable. The rear body pillar folds down with the top. Door frames, landau irons and door handles on both models are chrome plated. Windshield glass is non-shatterable. Wire wheels are optional at extra cost.

## Vought Shipments Rise

LONG ISLAND CITY, Oct. 15—Chance Vought Corp. shipped airplanes and spare parts valued at \$410,000 in September. This exceeds by 35 per cent the former monthly record. Also a new record for quarterly shipments was made when planes and parts valued at \$950,000 were delivered.

## Jordan Heads Chamber

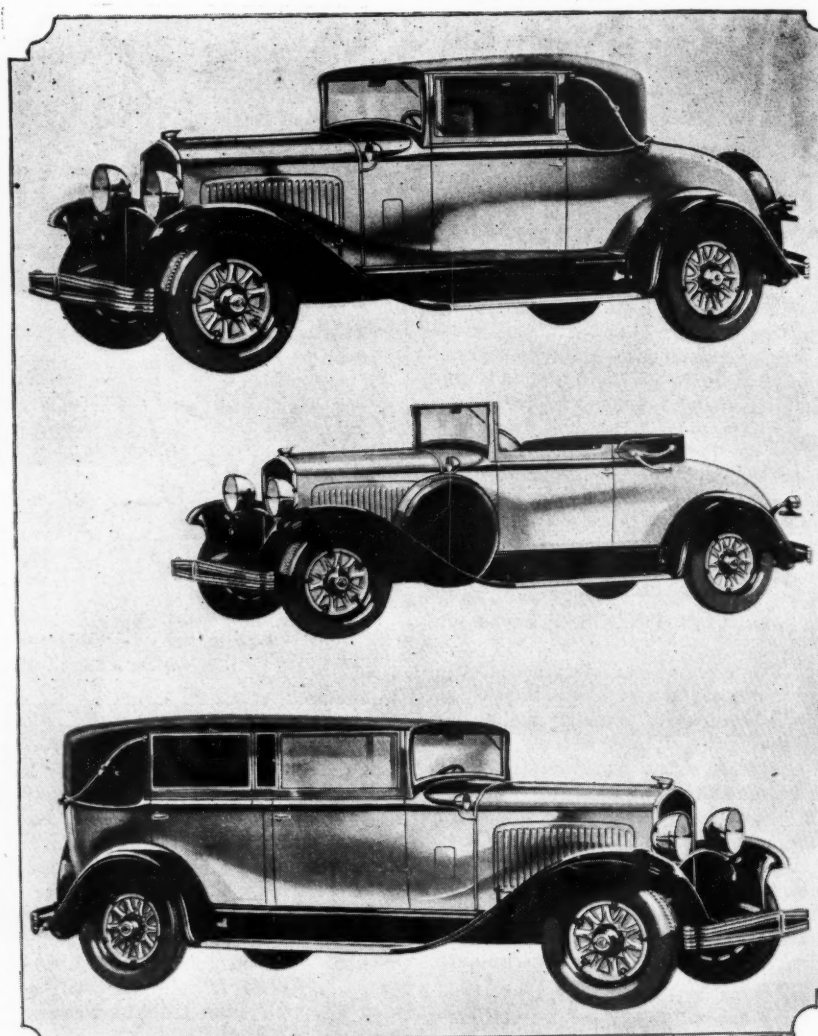
MEMPHIS, Oct. 15—R. L. Jordan, vice-president, secretary and treasurer of the Memphis Motor Car Co., has been elected president of the Memphis Chamber of Commerce. This is the second time he has been at the head of the organization, having served as president in 1916. The chamber is now engaged in a campaign to raise its budget of \$250,000.

## Knoff Joins Stutz

MEMPHIS, Oct. 15—Edward M. Knoff, Memphis zone manager for Willys-Overland, Inc., has resigned to join the sales force of the Stutz Motor Car Corp. of America at Indianapolis. Previous to his connection with Willys-Overland, Mr. Knoff was sales manager for the F. M. White Motor Co., Chandler distributor at Memphis.

## Chrysler Denies Stock Issue

NEW YORK, Oct. 15—Reports that the Chrysler Corp. was soon to offer 1,000,000 additional shares of common stock, the proceeds of which would be used to retire the funded debt of Dodge Brothers, Inc., and retire outstanding notes of the former Maxwell Motor Co., were denied by W. P. Chrysler, who said no such offer is imminent.



(See story at left)

## Crude Oil Used as Fuel

WASHINGTON, Oct. 15—Preliminary reports of the test of a new German invention, providing for the use of crude petroleum as a motor fuel, made under the supervision of the Royal Automobile Club of Great Britain, indicates a satisfactory performance of the truck with crude oil used as fuel, according to advices to the Department of Commerce from its London office.

The first of a series of tests was made with the engine burning crude oil over a distance of about 50 miles, the total load including truck and trailer weighing about 20 tons and the speed averaging eight miles an hour.

## N.A.P.A. Meeting Oct. 30

DETROIT, Oct. 8—National Automotive Parts Association will hold its annual convention here Oct. 30 to Nov. 1. The association points out that the overlapping of dates with the National Standard Parts Association meeting in Cleveland is due to a combination of circumstances which could not be avoided.

## Nash Earns \$6,666,853 in Quarter

KENOSHA, WIS., Oct. 13—Third quarter earnings of the Nash Motor Co. issued last night, totaled \$6,666,853, equivalent to \$2.44 a share on the 2,730,000 shares of stock outstanding, compared with \$6,296,524 in the corresponding quarter of 1927, or \$2.30 a share.

Directors declared the usual extra quarterly dividend of 50 cents. M. H. Pettit, vice-president and general manager, announced that the company sold 52,695 of the new series cars.

## Knox Joins Bradfield Motors

CHICAGO, Oct. 12—Elmer G. Knox has resigned as factory and production manager of the Yellow Truck and Coach Mfg. Company and has joined Bradfield Motors, Inc., of this city, as a vice-president and director, it was announced today. Mr. Knox for the past nine and one-half years has been in charge of the production of Yellow cabs, Yellow coaches and Yellow Knight trucks at the Chicago plant of this organization.



# An Automotive Olio



John N. Willys, head of Willys-Overland, with H. C. Tillotson and T. A. Russell, aboard ship and ready to sail to Europe. Bon voyage!



Here's a creation by Pete Murray, of Southern Motor Supply Co., Oklahoma City. Murray, at right, made effective use of the car during a recent cattle-men's convention in Oklahoma City. Hope it "steers" all right

Hi Sibley, Jr., Pasadena, has a mount that will carry three persons at a speed of 15 miles per hour. Where do you put the third guy, Hi?

By A. MARCELLUS CROYDON

# "They Wouldn't"

—Says the Writer of This  
Interesting Article,

"So I Had to  
BUY One"

I AM the manufacturer — or one of them at least — whom they refer to when they talk about the new competition that is fighting with the automobile industry for "a larger share of the consumer's dollar." They are right about the competition part, but they're all wrong when they talk about "fighting." The average dealer that I know doesn't even offer enough competition to talk about. I'm up against real competition, though, from those in the same trade as I am, and that's different. In my opinion, if the average automobile dealer were to have to battle with the competition that exists in my industry, he'd fold his tents, pronto, and the dealer mortality of the past would look like the low numbers on a lottery ticket compared with the way the new figures would read.

And yet there's a lot of money to be made in retailing automobiles. The reason I say this is because a lot of clever, wide-awake car dealers are affluent—and becoming more so. *How do they get the money out of it if it isn't there?* That's a question you can hand to the next man who tells you that "there's no money in the business."

I have owned and driven automobiles since 1910. In that time I have had good ones and I have some bad ones. Coming down to the present time, I was in the market for an automobile in May. This was not a trade-in deal but an outright purchase. I wanted a small car that would be economical to drive, because naturally I spend a good deal of time on the road. My actual experiences in buying this car were interesting.

I live in a city of 25,000 people. One evening my wife and I called at the display room of the Johnson Six dealer and as I entered the store, this dealer approached me.

I said, "I am desirous of having you tell me something about the new Johnson." One of these models was on

display in the salesroom.

"What is your name?" he asked.

I said, "Will you show me the new Johnson and tell me something about the car?"

Again he asked my name.

I told him that I did not mention my name. "I asked if I might see and have you explain all about the new Johnson. Do I have to tell you my name before you can do that?"

He replied, "That's all right, Mr. Jones. I recognize Mrs. Jones now so I know who you are."

The ice having thus been pleasantly broken, I asked a number of questions: "What is the diameter of the crankshaft? What is the diameter of the valves? What is the lift of the valves? What is the engine speed at 50 m.p.h.?" They were all simple questions of that nature, because the factory was advertising along technical lines.

There was not one question he could answer, so he called one of his employees. This employee knew no more than he regarding the mechanical details of the car. But there it was on the showroom floor. Would I sit in it? Would I sit in the rear seat? Wasn't it comfortable? I told him that there were a lot of cars that were comfortable when you sat still but not comfortable at a reasonable speed over the road.

I stayed there an hour. The entire demonstration consisting of slamming the doors, kicking the tires and the proprietor and his assistant putting down the hood about as fast I could lift it up.

Being anxious to leave, I asked the price of the car delivered, and it was given to me. I was a bit surprised and asked if it were necessary that I pay a premium because of purchasing a car in my home city?

He wanted to know what I meant and I told him that I was in a nearby city a few days before and the delivered price in that city was \$40 less than his price though he was 50 miles nearer the factory than they! He explained that by saying that he had to get his machines through the distributor and the freight from the factory would be practically the same, but that he had an additional \$5 to pay the wholesaler, and there

THE writer of this article says—quite frankly—that the average dealer isn't a merchandiser. He relates his actual experiences in acquiring an automobile as proof that he is right in his contention. *Motor Age* fully agrees with some of the statements he makes, but it is obvious that he selected an unusually apathetic group of dealers with which to do business.





ILLUSTRATION BY GEOF. GRIER

# SELL Me a Car—"



"At last we decided on a model we liked"

that I would be home both Monday and Tuesday evening and I would be glad to have him demonstrate his machine.

I never saw nor heard from him again.

I had to go out on the road. Before leaving I thought that I might as well get things moving and my wife and I discussed the matter and thought we could try the Smithson car and I suggested that while I was away she call the agent and place the order for the car and it would probably be there when I returned. She called the agency and asked to have the salesman come out

was a service charge of \$12 for oil and grease and gas, and the fact that he had to send to the distributing point to get all of his cars. I thought that the price should be just the same.

I told him that I had to have a car immediately, but from that day to this I never talked to nor heard from this dealer.

A week later I went over and called on the Smithson dealer. He gave me a general idea of why his car was superior to the others. I told him the same as I told the other people; that I had to have a car quickly, but I was not satisfied with his explanation and if he could give me some more facts in line with what I wanted to know, I would be glad to deal with him. He didn't follow the lead I gave him.

Some of the boys in our factory knew I was looking around for an automobile and one Sunday morning the telephone rang, and a very friendly voice over the line introduced himself as the agent for the Martin car. Was I in the market? I was. Would I come down to the salesroom and look at their car, or would I like to have a car sent out to my house? Would I be home Sunday morning or Sunday afternoon?

I replied that I always went to church Sunday morning and as far as Sunday was concerned, I transacted no business, being averse to business transactions on the Sabbath.

He said, "I heartily agree with your sentiments but I have to work Sundays."

I told him that I did not care what the other fellow did, I had trouble enough looking out for myself and

to our house. They told her he would be there that afternoon. When two days had elapsed and he did not appear, she again called the agency. A week later I arrived. She explained that she had phoned several times to the agency asking that the salesman come out but no one had appeared, so at my suggestion, it being a Saturday, she phoned again asking that a salesman come out to our house Saturday evening. It is about 15 minutes drive from the Smithson agency to where I live. We spent Saturday evening alone. No one from the agency appeared. I made up my mind that they did not want to sell me a car.

The following week, being in another city, I called at the Smithson agency there. I met the proprietor and I asked him enough questions to fill a book. Whenever I asked one he could not readily answer, he hunted through his desk until he found some memorandum or factory information, so he could tell me what I wanted to know. I asked him how soon he could deliver a car. He said that it would take him about an hour and a half to get one out of storage, cleaned and fitted up so I could drive it home. I bought the car.

During our entire conversation he had just one thought in mind and that was my interest in a Smithson automobile. This man is selling a lot of them and I do not wonder that he does. I told him that I would be back in an hour and a half to get the car. When I returned the machine was in his driveway filled with oil and grease, and with plenty of gas for my drive home, and when I got into the car and started it up, he said,

(Continued on page 30)



# They CLEAN UP

**M**ASS production is being applied to so many phases of industry that it is becoming rather an old story. In its specific applications, however, it is constantly cropping up in some new guise, and in this new appearance it affords a subject for thoughtful consideration to a new group of executives.

Today mass production methods are being applied in various centers to the car washing business as an adjunct to other service work and the methods are being so worked out that where sufficient volume of business can be obtained, quick car washing can be

*Mass Production  
Output, Make  
Profit*

By A. B.



G. G.  
Harris

made to pay for itself at low charge per car. For the most part this type of service is being used as a drawing card to attract car owners to a service station in the hope that they will purchase other types of service while there. But the interesting fact of the situation is that, where the demand is sufficient to require the installation of mass production methods, cars can be washed profitably at 95 cents apiece.

Goody's Service, at 1280 Jerome Ave., New York, operated by G. G. Harris and Dan Goldberg has been selling a 95-cent car wash for some time, and while in this case the service is used to bring cars into their place where it is hoped that other service can be sold them, the proprietors indicate that under ordinarily favorable conditions, no money is lost on this end of the business itself, and that when conditions are particularly favorable money is actually made. In order to do this, however, they must wash more than 300 cars a day. How they do this affords a true picture of the application of mass production methods to car servicing.

In their advertising, this company claims to wash a car of any size in nine minutes and have it ready for its owner to take away within that time. In this respect their performance is as good as their claims. From the time a car is first taken over by the washing crew until it is delivered at the door of the shop cleaned, polished and ready to be driven away takes just nine minutes. As the machinery is capable of taking care of nine cars at a time, each following the preceding one through the line, cars can enter and leave the cleaning line at the rate of about one a minute. As the place is open from eight o'clock in the morning until nine o'clock at night, it is thus seen that it should be theoretically possible to wash 780 cars a day.

There are delays, however, cars not getting into line at the suggested rate of one a minute, numerous little hitches occurring down the line, and trucks, which are also washed here, taking more time than private cars, and thus holding up the entire line. Three hundred cars a day is therefore considered a good average day's business and on this the company figures it is just about breaking even. During the comparatively short time that the company has been doing this work, it figures that it has averaged between 8000 and 10,000 cars a month and that at the latter figure it is making money. No attempt has yet been made to analyze the business in other departments that is directly attributable to this end of their business.

The machinery used on this job is largely of the home-grown variety, having been especially developed and built, and is in most particulars simplicity itself.

# at 95 Cents a CAR

## Methods, Boosting This Low Price able

### CROFOOT

The sole piece of special equipment is a conveyor which consists merely of an endless chain, power driven over wheels at the end of a 120-foot runway. The runway is of concrete with steel flanges which rise inside the track of the car, thus keeping the car moving straight ahead. At the initial end of this runway is a pit, which can be used should it become necessary for the workmen to get under the car. Hose, sponges, rags, chamois and mops, comprise the remainder of the equipment required for this job. A crew of 40 is employed.

Operation of this job is little if any more complicated than the equipment required. While the car is waiting to be placed on the conveyor, two operators apply polishing material to all nickel surfaces. Usually before that is completed the conveyor is ready and the car is pushed into position at the initial end. Here a large iron hook is used to attach the bumper to the chain, and the wheels are straightened so that the flanges will guide the car to follow the runway and no further thought is given to its motion or direction until the washing is completed.

As the car is drawn slowly onto the runway two more men, one on each side, proceed to scrub the wheels with long-handled brushes and soapy water from buckets standing beside them. At the same time a girl stationed on an elevated platform beside the conveyor mops the top with a long handled mop similar in appearance to those used in household purposes for cleaning hardwood floors. As the car is drawn slowly on, more men clad in rubber boots and rubber aprons turn high pressure hose on the wheels, chassis and undercarriage. These hose, delivering water at 140 pounds pressure, loosen all the dirt from bumpers, underside of fenders and chassis, and at the same time serve to flush this loosened dirt away.

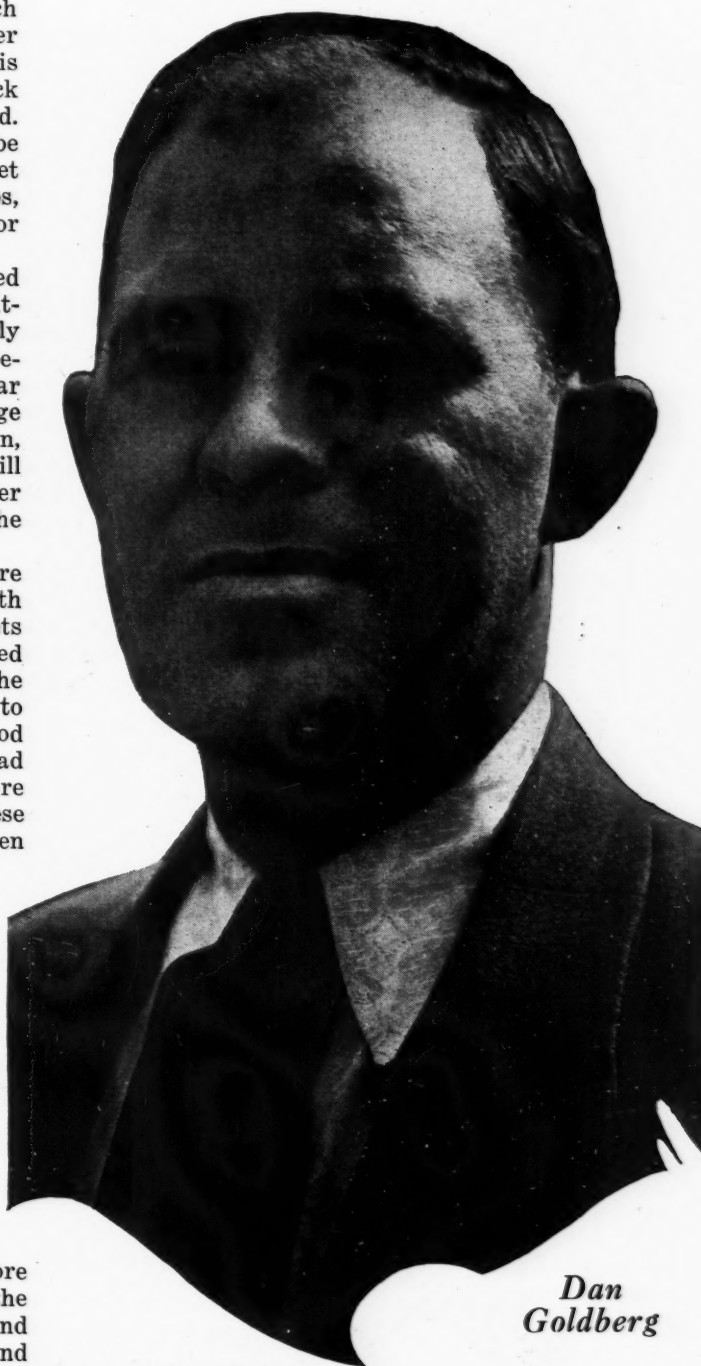
By the time this process is completed, the car has progressed to other men who begin work on the body with low pressure hose and sponges. These men have the body completely washed before the car has reached the next stage where most of the water is sponged off. As the car continues to progress, three men on each side begin their work and completely dry all exposed wet surfaces.

The next crew to begin work on the car is that of the window washers. These men wash and dry inside and outside of all windows, using chamois and cloth. This job is completed usually before the car reaches the end of the conveyor when one of the operators gets into the car, starts the engine up and drives the remainder of the length of the conveyor and

back around to the front door, where finishers check up on any spots that may have been missed or that are not thoroughly dry.

Meanwhile, of course, other cars have been placed on the conveyor, so that no crew is ever idle for any length of time. By the time the body washers, for example, have started in on a car, the chassis washers have doubtless started in on the next one which has reached their station on the conveyor. Just as in automobile assembly plants, the operators stand still while their

(Continued on page 32)



Dan  
Goldberg



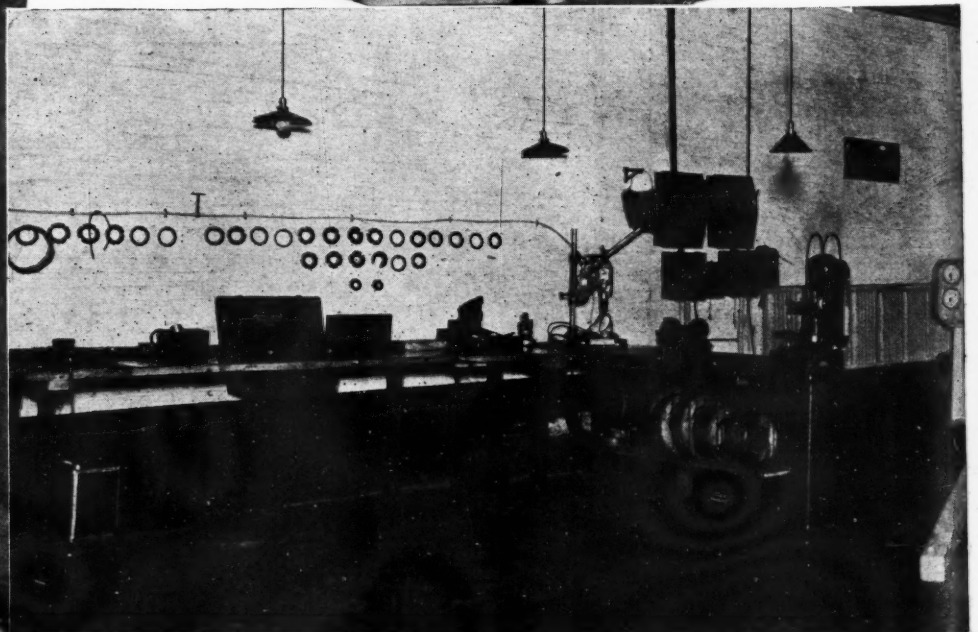
# He Uses RIGHT Tools

*And He Shows 'em  
to Sell 'em*

*"Proper tools and  
equipment are my  
best 'salesmen,'"  
says A. R. Laing*

**B**RAKE-CONSCIOUSNESS" is increasingly becoming a state of mind of motorists today. The growing use of the automobile as a positive necessity for the professional and the business man, no matter how inclement the weather, or slippery the streets; the motorization of most industrial and commercial transportation facilities and the reiterated warnings of safety campaigns all are playing their part in it. So now is the time for the brake service specialist to cash in while the curve of this "brake-conscious-

*Interior views showing  
equipment of  
Laing's shop*





# to Do the Job RIGHT

By K. H. LANSING

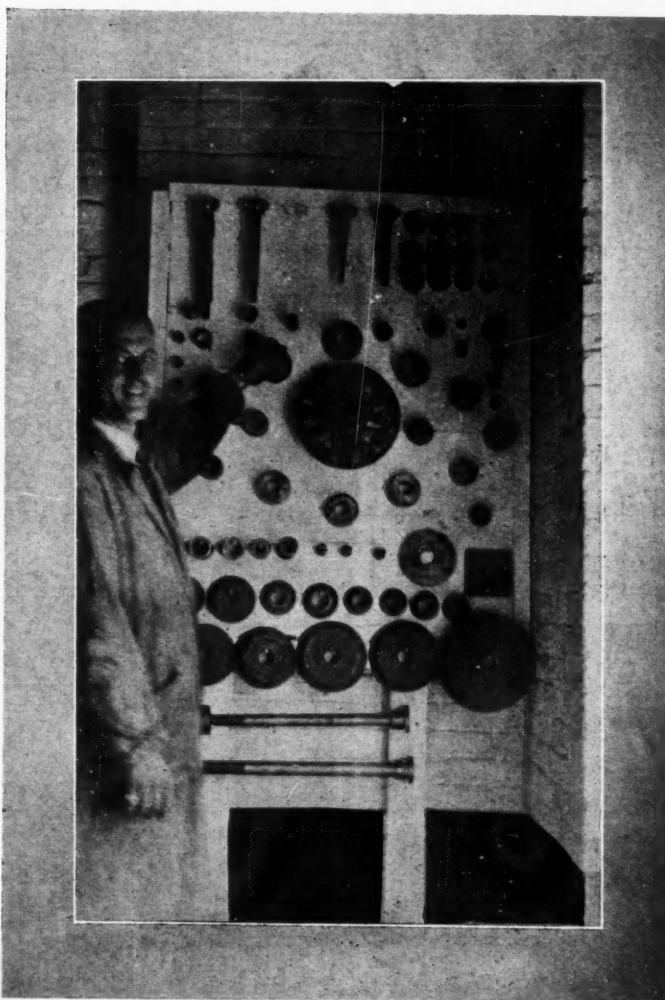
ness" is ascending and owners are interested.

To be a brake service specialist does not necessarily mean that the operator conduct only a brake service station with no means of sales save adjustments, relining and drum resurfacing; your specialist in this phase of automotive service may very well be a garage proprietor, for example, and sell numerous services or merchandise; from the usual storage space, lubrication and washing service to tires, accessories, parts and whatnot. But it *does* imply that the operator be properly equipped for testing brakes and caring for them efficiently.

Road tests are becoming obsolete. They take a lot of time, gum up traffic and cause unnecessary wear on tires, as well as strain on mechanical parts of the car; and too often they are "by guess and by gosh." An electric type brake-testing machine is accurate, its meters disclosing the exact condition of the brakes of each wheel; the test, which takes only a few minutes in the presence of the customer, is always a source of interest to him and such a device occupies only a little space—profitable space, too, if it be display space, because a machine displayed will pay for itself within a short time by selling service jobs.

Take the case of A. R. Laing, of Philadelphia. One year ago, he installed in his general garage at 1033-39 South Fifty-third Street a complete brake service outfit, consisting of an Electro Brakometer brake-testing machine; a Tru-Drum lathe for truing the inside or outside of drums of either two-wheel or four-wheel brakes, eliminating the necessity for removing

or deflating tires; and a Wright & Corson locating, drilling and countersinking machine performing in one operation the work of locating, drilling and countersinking the lining. As a result of free tests of cars and trucks on his Brakometer he sold so many adjustment,



*These displays sell service*

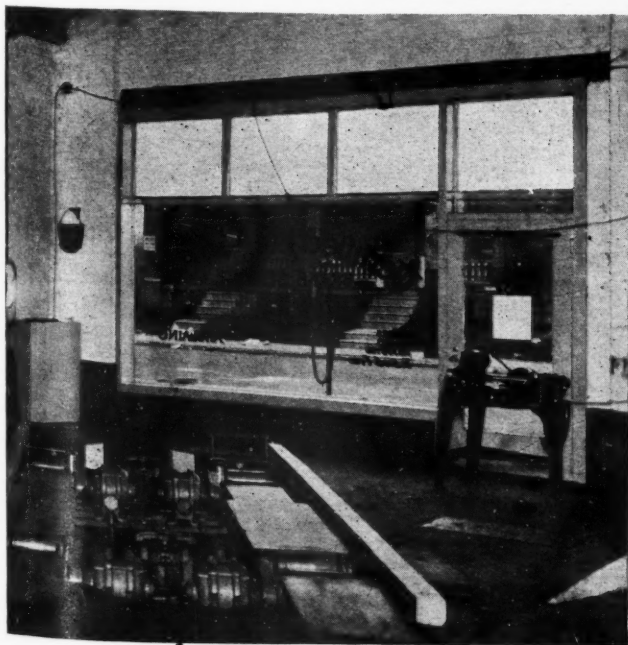
relining and resurfacing jobs, in addition to purchases of storage space, tires, shock-absorbers, Winterfronts and vacuum brakes, that within three months he felt sufficiently encouraged to open a branch brake service station, locating this at 1432 Hunting Park avenue, North Philadelphia. And he is glad he did so.

"From January of the present year to October," says Laing, "my business at the branch alone, which is practically only a brake service station, has increased 500 per cent."

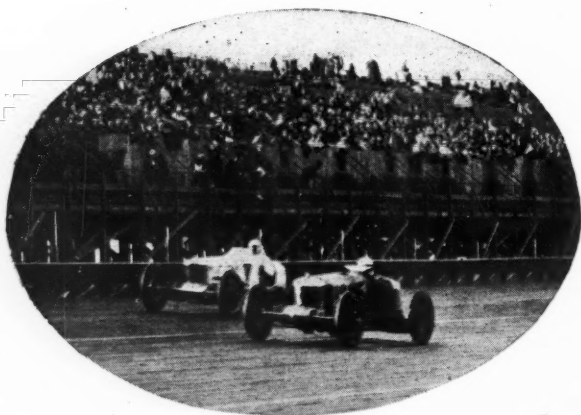
The branch, though smaller than the garage in West Philadelphia, in so far as its brake service equipment is concerned, is a duplicate of the latter. The sign on each building reads: "Certified Brake Service Co.," and the machine is in full view of the street in each place.

Laing was asked if each Brakometer assists materially in the sale of brake jobs. He answered that it does in about nine cases out of ten.

*(Continued on page 34)*



# Fred Comer is Killed



*Woodbury Wins Flagged Contest  
Replete With Thrills  
and Spills*

BY NELSON RILEY

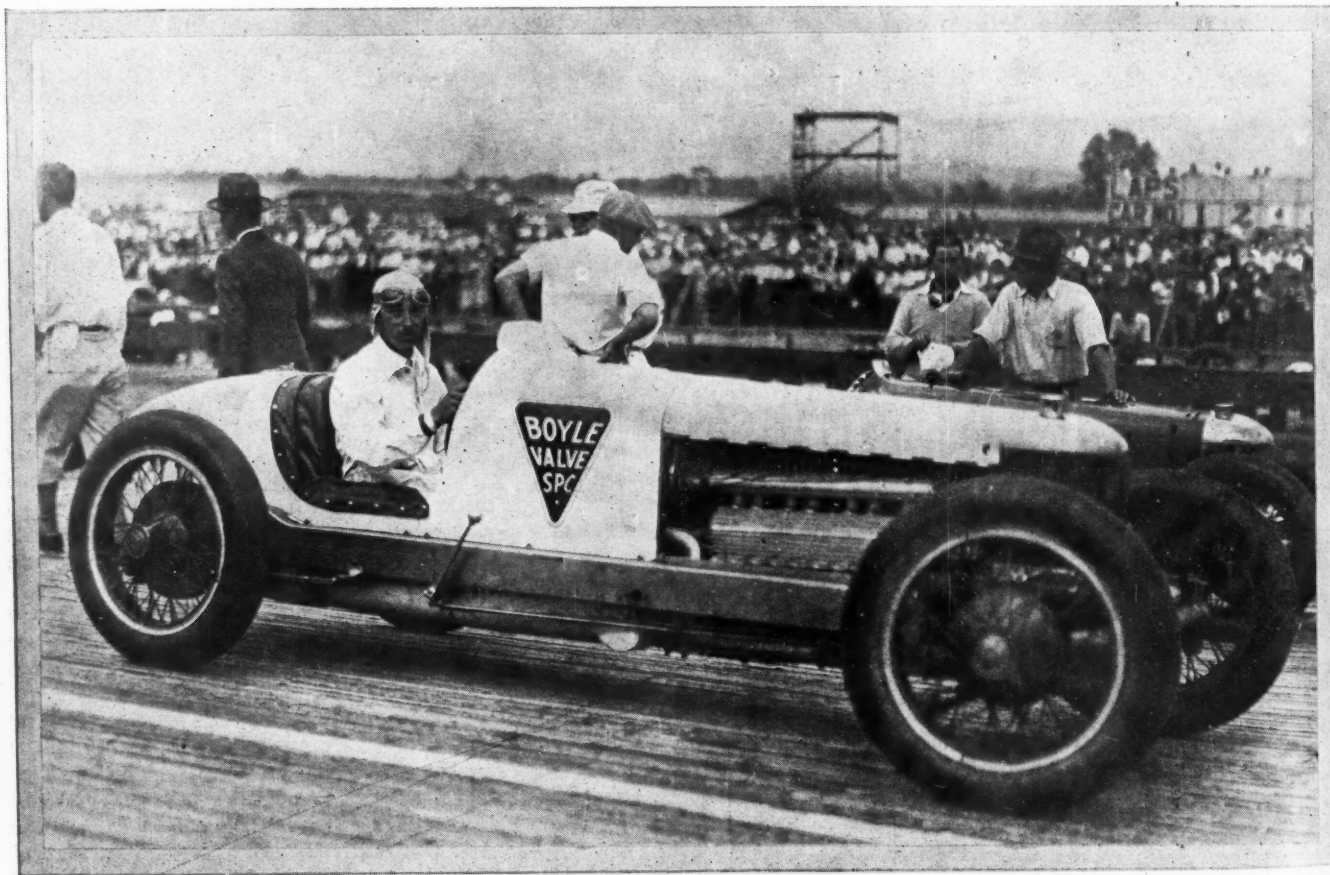
*(Continued from page 9)*

banked board track, the grim reaper came very close to making a 25 per cent score. When the race was finally called off for the day, to be resumed on Saturday, October 27, Fred Comer, one of the oldest and most experienced board track drivers in the world, lay dead. The Kansas Cyclone from Topeka had lost in his gamble, the victim of a blown shoe. Jimmy Gleason, Dave Evans and Ray Keech were receiving hospital attention, the toll of the most sensational series of thrills since the famous Indianapolis race of 1911.

Seated in my place in the press stand, before the start of the race, watching these daredevils giving their

mounts a final grooming, the thought that entered my mind was, I wonder what will happen today? For there has never been a race at the Rockingham Speedway that has not furnished its share of thrills and breath-taking spills. The day seemed ideal for the event. It was a real mid-summer's day, exceptionally warm, bright and clear, and there did not seem to be a breath of air stirring. The track looked to be in as good condition as the day it was built. It was on this track, just a year ago, that the veteran, Harry Hartz, had his gamble with death and only escaped with his life by the greatest of miracles, after his car had rolled down the bank leading

*(Continued on page 36)*

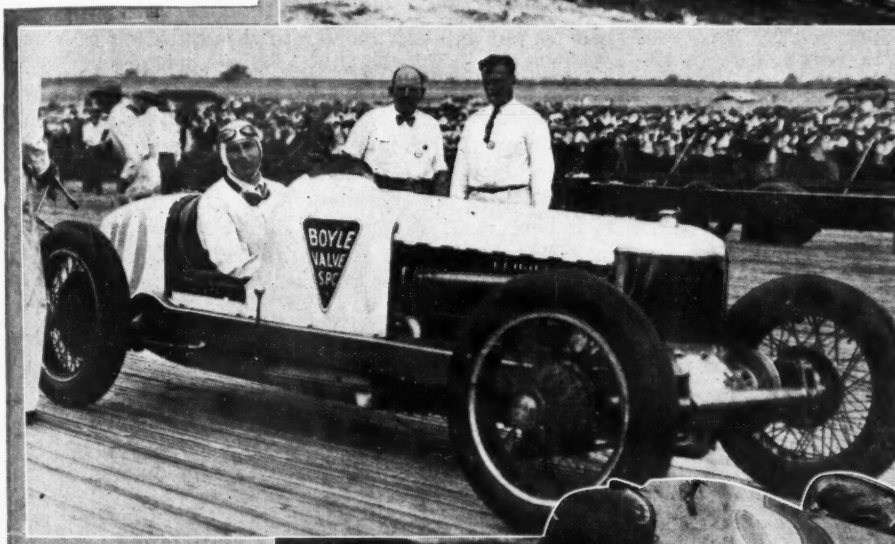


*This picture of Fred Comer, the last that was ever to be taken, was snapped a few moments before he was killed. Oval at top shows Cliff Woodbury taking the lead from Ralph Hepburn*



# d at Rockingham Race

Dave Evans' car,  
after a roll down  
the saucer



Cliff Woodbury, the winner.  
And, of course, you recognize  
our good friend Dick Woods,  
of Craveroiler fame, at the right

Jimmy Gleason sur-  
vived this crash  
with a broken ankle  
and possible inter-  
nal injuries



Fred Comer's car. It appears,  
from a glance at the left hind  
wheel, that a blown tire caused  
the fatal accident



By  
Arthur  
E.  
Matthews

# He Gets 'em

## *Fred Perkins Selects Likely-Looking Men and Develops Them Into Outstanding Sales Producers*

IT does not make any difference to Fred Perkins, Capital City Auto Company, Inc., Studebaker distributor in New Orleans, what work an applicant may be doing when he applies for a position on his sales force. That is the last thing Mr. Perkins takes into consideration. In fact he prefers to take the raw recruit and make a veteran out of him. The results are more satisfactory.

What Mr. Perkins wants to know about the applicant may be summed up in the following: Is he honest, is he willing to work, has he a good appearance, is he ambitious, is he sincere, is he enthusiastic about the Studebaker line and is he really convinced that he can sell Studebaker and Erskine cars?

If the applicant can measure up to these standards is a satisfactory manner he is put to work—if he fails he is cast aside.

Around New Orleans and the immediate vicinity, Mr. Perkins enjoys the enviable reputation of being able to select likely-looking men and develop them into outstanding producers. This "knack" has resulted in the building of a winning organization to the point where, year after year, it has obtained a large share of the business done in its price class—and where a handsome profit is shown for the house.

When Mr. Perkins has trained a salesman he makes it worth his while to remain with the organization. This he does by a unique salary plan of his own development. Regardless of the value of the trade-in, the salesman is paid a flat price for each new car he sells. When he reaches 35 cars he is given a bonus. Another bonus is paid when he sells 50 cars and another when

he sells 75 cars, etc. This plan, Mr. Perkins believes, serves to keep the men continually working.

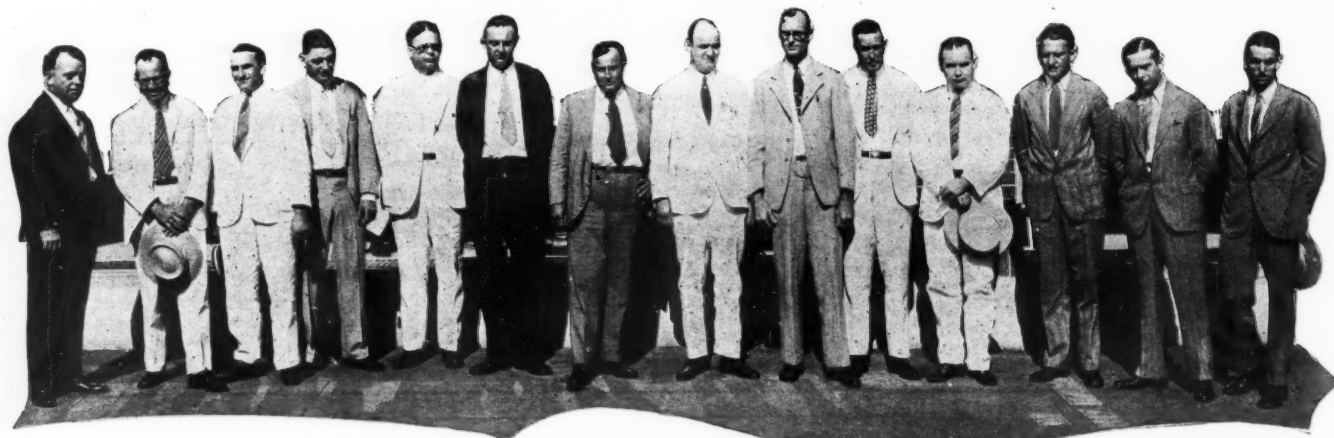
On his new car sales force today there are four men who have been with him more than six years. Two have been with him more than four years. The record of the used car salesmen is equally good.

Asked for an explicit answer to this question of how he selects and develops outstanding producers, Mr. Perkins said, "You have to pick them carefully in the beginning. When you see a bright, clean energetic chap who has plenty of friends and whose personality tells you that he is a natural salesman, it doesn't matter what he is doing at the moment you discover him—look him over and if you find that his character, appearance and reputation are right and that he is willing to work, put him on your sales staff and then go to work with him.

"On our sales staff today are the following: A former cigar salesman, a former oil salesman, a small town merchant, a lawyer and a former taxi driver. Some of our salesmen were experienced automobile men before they came into our organization. But each man measured to our standards before we placed him on our sales force.

"This year four of the new car salesmen will sell more than \$100,000 worth of merchandise and the remaining four will sell at least \$75,000 worth of our products. Next year I am willing to wager that all will exceed the \$100,000 mark.

"The reason why we are able to show such a record is because we are careful about the men we add to our staff. And once hired we take the time to train them



New and used car sales force of Capital City Auto Co.

# RAW!

properly. If we did not train them in this manner we could never hope to obtain the volume of business that we do.

"We select our salesmen by the following principles: Honesty, appearance, their willingness to work, their belief in Studebaker policies and their enthusiasm for the line. If a man shows laziness or dishonesty in his past record he is barred at the start.

"We don't hire a man the first time we interview him. We want to make certain that he is right in every respect before we put him to work. After I have had an interview he is turned over to the sales manager. Together we discuss his possibilities and check on his references. If we are convinced that he has the right stuff we take him on. Otherwise we do not. We also take into consideration how he will fit in with our other salesmen.

"We prefer local men. The 'floater' doesn't appeal to us. We believe that if a man comes to us seeking a position on the sales force and says that he made such and such a record in some other city, there is a possibility that he belongs to the 'floater' class. I believe that a dealer will make every effort to keep a good salesman. However, there are always exceptions to the rule.

"We don't expect the newcomer to become a star in 30 or 60 days after he has joined our force. Neither do we expect him to train himself or to get all his knowledge from books. We go to work with each newcomer and give him personal attention in order that he may be able to hurdle the rough spots more easily.

"We get the newcomer to take the salesman's course offered by Studebaker. This we have found to be very beneficial. Then we keep him posted on our merchandise and see to it that he knows how to present the story in a simple and intelligent manner.

"We discuss prospects with our men continually. We attempt to learn why they lose sales and why they are successful. We want them to analyze each sale to learn what it was that caused them to lose or to close the deal. In this manner their faults are corrected and in turn they make more money. That helps the firm.

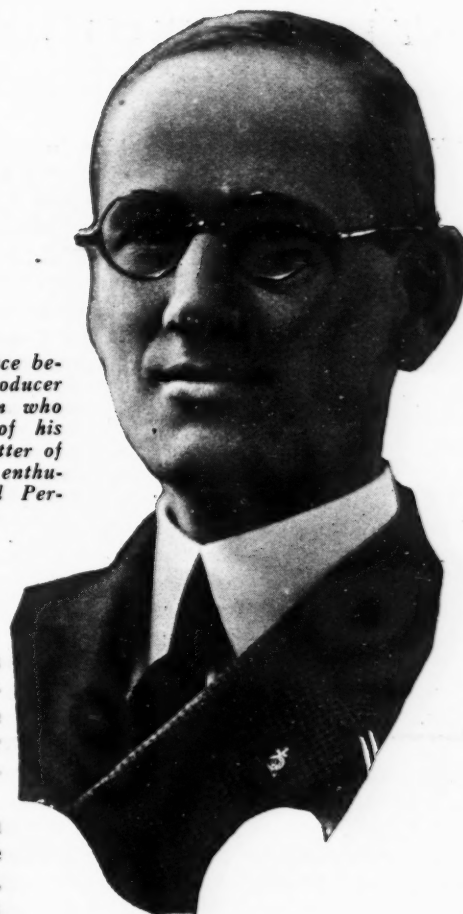
"Sales meetings are held every morning when work for the day is discussed. Never is there a time when the sales manager and myself are not busy thinking of some plan that will mean the betterment of our sales staff.

"Our salesmen are well-known in the community and come under the head of 'live-wires.' They mingle freely in the various social and civic activities of the city, making many contacts."

This latter point brings forth an asset of sales organization which should not be overlooked by any automobile sales organization. It has a great deal to do with the prosperity of the Capital City Auto Co., Inc.

Another point which the firm follows strictly is the assigning of salesmen to certain prospects. If Mr. Perkins or his sales manager knows that a certain salesman on the staff has the best chance of closing a certain prospect they give him the job. It might be necessary to take the prospect from another salesman, but when this done Mr. Perkins makes certain that the latter

*"The difference between the producer and the man who falls short of his goal is a matter of hours and enthusiasm"—Fred Perkins*



salesman gets another prospect that he stands a better chance of closing.

Having been through the mill himself, Mr. Perkins knows that a little praise or

a friendly pat on the back is the proper thing when the salesman is out on the firing line. It is just such encouragement that has helped many a time to swing a deal to the Capital City Auto side of the ledger. Mr. Perkins knows too that it is possible for his men to go stale just as other salesmen do. At various intervals he will be the host at informal parties. These parties serve as a stimulant. The men appreciate the fact that the boss is with them and that he knows they are working. And they go out with renewed pep that makes the sales barometer jump skyward.

Mr. Perkins believes in promoting men from the ranks. His retail sales manager started as a used car salesman. He was promoted to the new car staff. The time came when a sales manager was needed and he got the job. He is making good today.

His used car sales manager came from the ranks, and he, too, is making the bell ring. Mr. Perkins has found that it pays to reward those who have shown the ability to produce.

"The idea that outstanding salesmen are geniuses is wrong," says Mr. Perkins. "To my way of thinking the only difference between the real producer and the man who always falls short of his goal is that the producer does not limit himself to the number of hours that he works or the amount of genuine enthusiasm that he puts into his work."

That Mr. Perkins has his feet on firm ground in the matter of what salesmen should be and how they should be trained is proved by the sales records which this firm runs up year after year. Figures show that regardless of general business conditions, the Capital City Auto Co. always does a consistent business and is always among the leaders.



## “THEY WOULDN'T SELL ME A CAR—”

(Continued from page 21)

“Mr. Blank, I have never ridden in this particular car, having got it ready in somewhat of a hurry and if you don't mind I would like to have you take me around a couple of blocks so that I can see that everything is all right.” He got into the car beside me and we drove around the block a couple of times. There was nothing about the car that he did not have an interest in.

After I had the car four months I met the local agent in my home town. He said to me, “How do you like your Smithson?”

I replied, “It's all right. It's a good light car. Not as large nor as fast as I want.”

He said, “Is that so? What are you going to buy?”

I told him I had about made up my mind to buy a Thompson 8, made by the makers of the Smithson.

He asked where I had bought my Smithson and I told him. He then invited me to come in and look at the Thompson some time. I told him I had already driven one.

He said, “I will talk it over with you sometime,” and I told him that whenever he was ready I'd be glad to see him.

That was a month ago and I haven't seen nor heard from him since, even though he lives in my home town.

I was out of town a few days ago and I stopped in to see the dealer from whom I had purchased my Smithson. I had not seen him since I bought it. There had been no occasion to see him. The car ran all right and as I had nothing to complain about I did not call upon him. On my arrival we exchanged a few common-place expressions and then I told him I wanted to buy a Thompson 8. What sort of a proposition would he make me in trade for one? Well, he did not know. My car was in good shape. It is rather surprising to see anyone keep a car in the condition that I did. He did not wonder that he had not heard from me since the day I bought the car. If everybody took care of their cars the same as I did a dealer's life would be a whole lot better; but as to the proposition of a trade, he would have to let me know. Two weeks elapsed. I heard nothing at all from this man who showed such rare intelligence when I bought a car from him.

I finally went to still another city and called on a Smithson-Thompson dealer there. My car stood across the street. The salesman on the floor wanted to talk to me about Thompson. I told him I was not interested in knowing anything about the car. What proposition would he make to me for my car in trade for one of them?

He said that my car would have to be appraised and

he called a man and introduced me to him and told me that he was their appraiser. This gentleman looked across the street and said that he would allow me \$775 in trade for my car.

It cost me \$1,035 in May, but there has been a small drop in the list price since. While I thought his offer was all right, I wondered how he could tell how good the car was from a distance like that, so I offered him the key and told him to drive it around the block and see the condition. *No amount of persuasion or talk on my part would get him outside that office door.*

So I said to the salesman, “Well, now, you do the figuring! How much money have I got to pay you for this Thompson—mentioning the particular model I desired—if you take my car?”

He figured a moment and then said, “\$520 will be about right.”

I moved around the new car some, sat in it and played with the levers and raised and lowered the windows. Finally I started toward the door. When he saw that I was leaving he said, “We will make the price an even \$500.”

I said, “I would like to have my wife see the car. I'll bring her in tomorrow.” I did. She wanted one model and I another. The price of either was the same.

Finally we decided on the same model and I had made up my mind to buy the car when quite to my surprise the salesman said, “Now, Mr. Blank, as far as your old car is concerned, we will set a price on that of \$795.”

He had previously reduced the price \$20 to make so-called even figures and then, without solicitation on my part, he voluntarily reduced it \$20 more.

Well, I thought that there was no better way to earn money than to keep still. To date I have not heard from this firm in any way, either directly or indirectly. They know who I am, where I live and all about me.

I have a mental feeling that all of the automobile salesmen that I have done business with this year, or have attempted to do business with this year, feel that they are so vastly superior in mental attainments that they cannot afford to take up their valuable time to transact business with me. Maybe they are right and maybe they are wrong, but I believe that I have salesmen, and I do not know how they could ever get an money as straight salary than most automobile salesmen, and I do not know how they could ever get an order if they used the same methods of selling as the modern automobile salesman practices.

### “How Stock Is a Stock Car?”

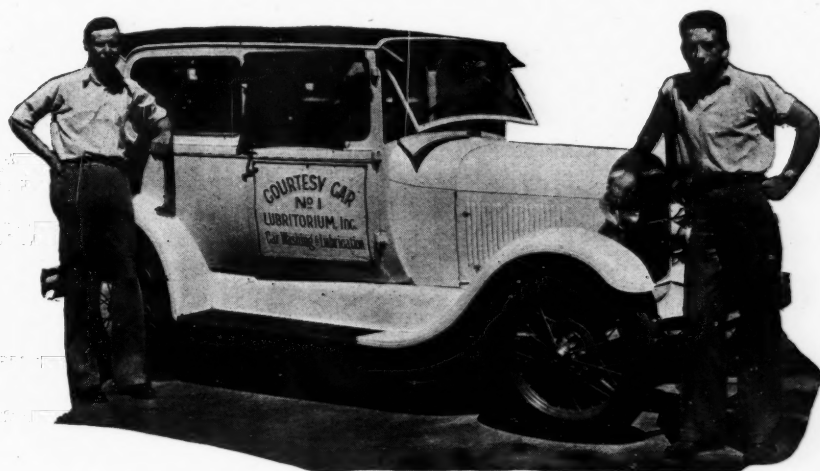
**N**EXT WEEK'S *Motor Age* will contain a most important contribution to stock car bibliography. Perhaps you think that stock cars aren't always so “stock” as they might be. On the other hand, it may be that you think that almost any car that comes off the dealer's floor is selected as a “stock” car. This interesting article will answer your questions. Watch for it in—

*Next Week's Motor Age*

# Trade by COURTESY

*These Youthful  
Merchandisers  
Give a MODERN  
Interpretation to  
An OLD Word*

By Ernest W. Fair



**Y**OU'VE got to give service to expect service and the more novel and better your service the more money you are going to receive from it."

This slogan, combined with a high standard of service, is making a success of one of the most unusual and the newest service stations in Oklahoma City, Okla., the Lubritorium, Inc., a corporation of which H. A. Putman is president, and John T. Britton, general manager.

An unusually attractive building, highly adaptable to quick service and expert jobs, was not all that the new institution used in bringing about a volume of business during the first two months' service said to be unequaled by competitors.

Another outstanding feature was the Courtesy Car service. These courtesy cars are light sedans, painted a brilliant white as shown in the accompanying photo-

**T**HIS is the kind of story you enjoy—it exemplifies, more perhaps than any we have printed, for some time at least, the modern way of merchandising; a modern establishment, modern ideas of service, modern methods of caring for customers, modern ways of advertising and a substantial return on the invested dollar which vindicates the modern method of doing business.

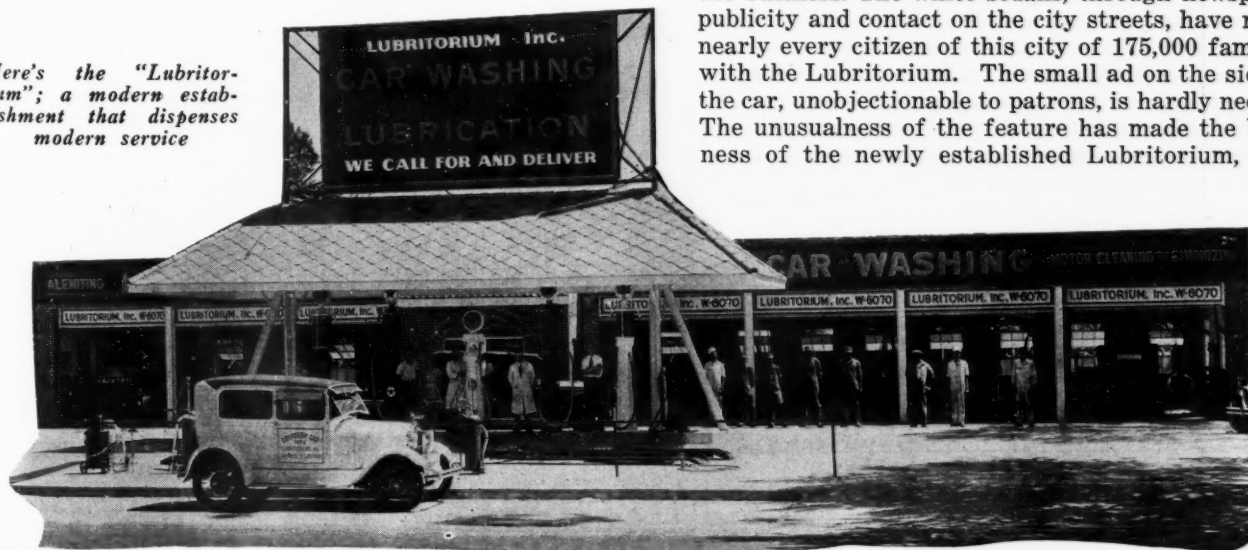
graph. They are all new cars, handsomely equipped and in expert condition. When a customer brings his car to the station for service or repairs of any kind one of these courtesy cars is put at his disposal,

with a cleanly dressed young man as driver. The car is at the customer's disposal to take him anywhere he may care to go—to the office, theatre or shopping center.

This unusual feature was such a success during the week of its inception that the firm added a second Ford Model A sedan and both were kept busy throughout the entire day. A month after the opening two new Chevrolet sedans, painted the same immaculate white, were added and the firm is now contemplating the purchase of others.

Not only is this service appreciated by the customer but it is likewise an advertisement of great value for the business. The white sedans, through newspaper publicity and contact on the city streets, have made nearly every citizen of this city of 175,000 familiar with the Lubritorium. The small ad on the side of the car, unobjectionable to patrons, is hardly needed. The unusualness of the feature has made the business of the newly established Lubritorium, Inc.,

*Here's the "Lubritorium"; a modern establishment that dispenses modern service*





# TRADE BY COURTESY

equal to that of many stations long in business.

The trade that the courtesy car brings in must be kept, Britton explains, so the station itself and its personnel are adapted to the high standard set by the firm's leading business puller.

The building, a single story, narrow, with twice as much outdoor space as floor area, and with systematic arrangement of shops, was designed for high-speed and high-grade service. The offices are in the center of the building and to the right and left are the shops, clean and always busy.

Each of the two long shops is complete in itself. Although they are divided off into spaces for each car, there is no partition. This feature was eliminated when it was found that a partitionless room would not only aid moving of cars inside the building, but would likewise make it easy to transport tools and other equipment from one section to the other.

Modern equipment is used throughout; money was not spared in equipping the station. Small drive-up racks for oil draining are used, placed directly in front

of the station. Oil and grease trucks are kept on the platform, oil and gas are conveniently placed and air and water lines are in every part of the station.

Not only does this station offer these services in the run of ordinary work to its customers; it likewise maintains another service that is as successful and has done almost as much to build business as has the courtesy car. This is the policy of calling for and delivering the serviced car.

Young men, competent drivers, are also employed for this work. They are clean and keep that way. There will be no oil or grease on the customers' cars—they will be as immaculately clean as the young men who deliver them.

All of these services are offered at no extra expense to the customer. How do they do it?

"Where the ordinary station takes care of two cars we take care of 10," Britton explains. "Naturally we can offer a bit more in the way of service. You've got to give service to expect any results. The more service you give the better. You can't give too much."

## They Clean Up at 95 Cents a Car

(Continued from page 23)

job is carried slowly past them on the conveyor. In this way, the greatest efficiency is obtained, each operator having one specific job to do and having a limited time in which to do it. In fact the similarity between the handling of the washing job in this plant and the handling of the automobile assembling job in the manufacturer's plant is very marked.

The personnel which performs this work is divided as follows: 2 to put on the nickel polish; 1 for brushing out interior; 1 to place car on conveyor; 1 to wash top; 2 to scrub wheels; 2 with high pressure hose; 4 to wash body; 2 to sponge water off; 6 for washing and drying windows; 1 to remove grease spots; 1 to remove car from conveyor; 1 foreman; 2 finishers; and the remainder for polishing. Where there are more than

one assigned to a specific job, these are, of course, divided so that equal numbers work on each side of the vehicle.

With such a large personnel on the payroll it can readily be understood why an inexpensive service like a 95 cent car wash would have to be handled in bulk proportions in order to make the proposition a paying one. For that reason a nine-minute car wash for 95 cents would not be practical in a small community. But in communities where the car registration is large enough to insure 300 cars a day, and where pride in appearance of a car is sufficient to induce owners to keep their cars looking clean, an installation similar to this might prove a profitable investment for some wide awake service station.

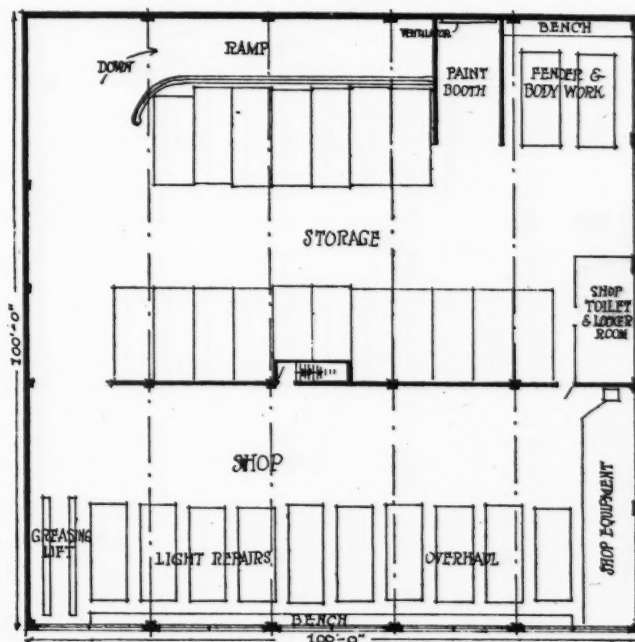
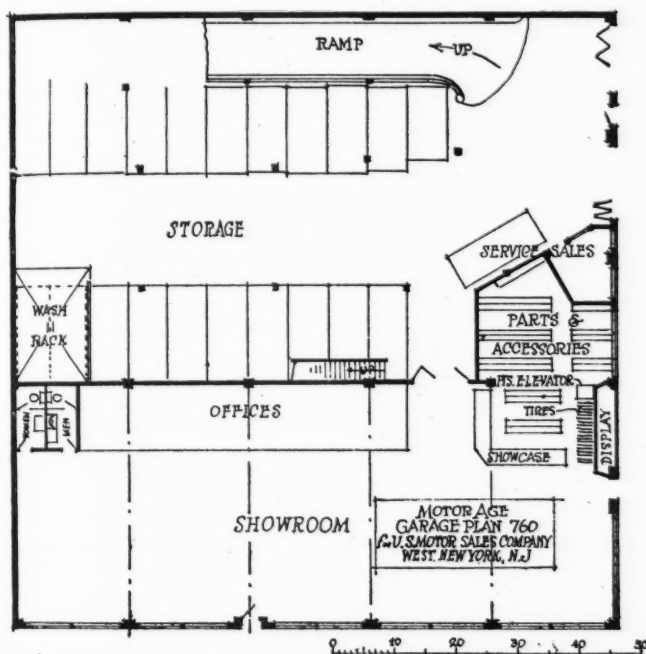


A GLIMPSE of one corner of the Gardner Salon de Luxe held recently in the magnificent palm room of the Hotel Chase, St. Louis, during the regional sales managers' conference

# A Two-Story Service Building

*Two Plans of a Structure to Be Built  
on a Corner Lot, One Using a  
Ramp and the Other  
An Elevator*

By Tom Wilder



This building is in two main parts, a 60 ft. section in the rear and a 40 ft. section in front. The roof is trussed over both sections

"We are a subscriber to your valuable magazine and have noted several times that you submit plans for two-story buildings, with showrooms, service station and ample offices for a lot 100 x 100 ft.

"We will appreciate it if you could suggest to us or submit a plan of this type building, on a corner lot 100 x 100 ft.

"Thanking you, we remain,

"U. S. Motor Sales Company  
West New York, N. J."

WE are sending you MOTOR AGE plan No. 700 which is 100 x 100 ft. and on a corner. This has an elevator instead of a ramp, and a basement is provided. In plan No. 760, shown herewith, we have put in a ramp. A comparison will give a good idea of the difference in the two methods. It will be noted that the ramp uses quite a bit more space, but of course, the cost of operating an elevator makes the saving in space a question as to whether it is a real saving or not.

The difficulty that the ramp brings into the problem is more extensive than the mere space it takes, however, for the approach both top and bottom are always difficult to arrange and make the departments, the aisles and the storage spaces secondary.

There is another way of handling one feature which might be preferred. You will note that there is a parts ele-

vator to take parts to the shop; parts could be handled just the reverse of the way they are here; that is, the parts stock could be on the second floor and the elevator used to bring parts down to customers at the accessory counter. In that way the space used by the stockroom could be used for quick repairs and adjustments, saving a great many trips to the shop on the second floor. The space would accommodate three cars.

The showroom is large and the display windows can be used to show a number of models. You might use a scheme here that is very satisfactory—a large movable screen to divide the showroom so that new cars may be placed on one side and used cars on the other. In this way, when the new models come out, the screen may be removed and the whole showroom used for a grand opening.

A small body repair and paint shop has been suggested at one end of the second floor storage room, mainly because the space is too deep for economical storage. A shop of this kind is often very profitable in making used cars more salable and for fender and touch-up work.

The columns in the main floor garage are designed to accommodate the cars but the car spaces were drawn with the idea of using 50 ft. girders extending from the showroom rear wall to the ramp. The girders would allow one more car on each side than the columns, but would cost considerably more. There is a space under the upper end of the ramp on the main floor which is not good for much but the dead storage of two cars, although very short cars could be placed here two-deep.



## HE USES RIGHT TOOLS TO DO THE JOB RIGHT

(Continued from page 25)

"When we get a relining job," said Laing, "we allow one adjustment free of charge; and of course all tests on the machines are free. We know that the machine tests help sales and bring business; and many customers keep returning for tests at proper intervals. We tell them that under ordinary circumstances adjustments are necessary after from 1500 to 2000 miles of driving; that the tires will last longer and that the life of the driver and of the pedestrian will be safer if these adjustments are made."

Adjustment charges on two-wheel brakes are \$1.50, with twice that amount for four-wheel brakes. Should there be broken anchor studs, or other serious trouble, an extra charge for time and material is made. Chevrolet relining jobs can be done in from 18 to 20 minutes, if necessary. For Chevrolets Laing keeps on hand "service bands," ready lined, to substitute for the bands removed from the customer's car.

A thorough job of relining on a Buick will average from two to two and one-half hours. The average adjustment on a car takes about half an hour. Ordinarily, two men are engaged in brake service work in each place, but during an occasional rush, when, as for example, eight relining jobs were in progress at one place at the same time, as many as four or five men will be working in one shop.

Laing uses two grades of brake lining, one of which is especially suited to heavy duty and which is recommended for most cars. Flat rates are charged on all cars. A relining job on a Chevrolet, using the heavy duty grade of lining, would cost the customer \$10 and for the lighter grade, \$8 is the charge.

Customers are told many things to their advantage by Laing and his service men, when opportunity arises. Aside from the rather well-known points that it is time to adjust the foot brakes whenever it is possible to push the pedal all the way to the floor board; that brake lining incorrectly applied is not only unsafe but wears rapidly; that if brakes are not adjusted properly they are dangerous; that brakes should be used with the clutch engaged until speed has been reduced to five miles an hour and that the clutch should then be released and the foot-pressure increased. It is recommended that the brake rods be oiled at least once a month, this helping both the customer and the service station.

In this connection, Laing believes that lubrication service fits in especially well with brake service, inasmuch as the brake specialist can see to it that the customer's car is properly and carefully greased, without allowing the grease to smear the brake lining, preventing proper control.

While some brake fixing concerns use a cabinet for containing the parts used in operation of the truing lathe, Laing has his own "quick" system of having these parts on a white display board, the light background, making any desired part stand out plainly. This board, placed in the garage, close to the lathe, has placed on its pegs such requirements for passenger cars as straight and tapered mandrels, cones, large flange, spaces to apply for adjustment after the wheel with its tire on has been mounted on the lathe; cutters and reducing bushings. For trucks there are straight mandrels, cones and bushings. Nearby, immediately over the workbench, across from the testing machine, are suspended on a wall against its white background, numbered drum parts, with a key-list giving the numbers

opposite the name of each part. All these parts are suspended from pegs, properly spaced to make handling easy and accurate. For example, "No. 6" is a wheel-puller for a Buick; "No. 7," for a Chevrolet truck, and so on. On one side of the workbench is an open cabinet with wire partitions in which are placed the different sizes and grades of brake lining for ready handling. This arrangement makes the brake service department compact and convenient.

While the bulk of Laing's trade is obtained through recommendation of satisfied customers, a fair number are secured in the following ways:

1. Tire dealers are glad to send in their customers who need brake service and this condition frequently is indicated by the state of their tires.

2. By special window-dressing "stunts," such, as for example, was used to advantage by Laing when he first started his brake department. Under a sign "Watch This Pile Grow," in a front window of the garage he placed a pile of customers' used and discarded brake linings, adding to the heap daily until it was an impressive reminder to passing motorists.

3. By advertising in the monthly publications of the two largest local automobile clubs—and they have a huge membership roll.

4. By distributing to customers blotters and to any children in their party a puzzle card issued by the brake lining factory, as good-will reminders.

5. By placing factory pamphlets in outgoing mail and in packages of purchasers.

6. By circularizing customers shortly after a brake job has been done on their car. One such form-letter, signed by the service manager, reads as follows:

Dear Sir: Although the job we did on your car is finished, we want you to feel our interest in your car is not ended.

Our aim is to build up our business on the basis of a satisfied clientele. We consider no transaction closed until we know our customer feels that money spent with us is money well spent.

We hope the job we did for you has proved satisfactory in every respect. If we can do anything further to increase the efficiency of the brakes on your car, we hope you will give us the chance to do it.

Assuring you of our appreciation of your business, we are

Sincerely yours,  
CERTIFIED BRAKE SERVICE CO.

Little services such as installing in each job, where helpful, new felt washers; careful oiling of brake rods and scrupulously brushing off with a wire power-buffer from bands, before working on them, all dirt and grease, as well as explaining unavoidable temporary causes of squeaks, such as those "harmless" symptoms noticeable until a bit of brake lining raveling about a newly inserted stud has been worn down by driving a short time, make the customer appreciative.

It has been found in these shops that in the case of four-wheel brakes, few cars when first tested are capable of stopping at 35 feet at a 20-mile per hour rate, or at 50 feet at the same rate in the case of two wheel brake equipment. At the rate of 35 miles an hour, probably few cars can stop short of 40 feet with four-wheel brakes.

Just a word or so more: Laing's stations are equipped even to care for the brakes of steam shovels. He had one such job at the garage and it required as much brake lining as would be used on four automobiles.

Pete Keenan



A MOTOR AGE IMPRESSION-G. LA RUE MASTERS  
Asst. Gen'l. Sales Mgr.=The National Lock Washer Company



## FRED COMER IS KILLED AT ROCKINGHAM

(Continued from page 26)

into the home stretch, a mass of flames, with Hartz, who suffered injuries which kept him on a hospital cot for six months, wedged inside of it. On July 4, Cliff Berger turned over in the same spot, but escaped without a scratch. Both were victims of an air pocket.

However, no matter what my imagination might have pictured, I could not have conceived the series of events which should pile up in front of my eyes before the race was 25 minutes old.

The story of what occurred in the race reads like the wildest of movie films. And when it was decided to call a halt by a committee of drivers and officials, there was not a dissenting voice in the great crowd of more than 35,000 that filed out in awed silence.

At the very start of the race it was seen that the drivers were setting a pace which would mean the lowering of the present record figures. Things began to look interesting. Competition was at its height. But a pall of gloom fell over the crowd almost at once as Fred Comer, one of the oldest of the board track drivers, rounded the bank leading into the home stretch. His car was seen to wobble as though a tire had gone. It flashed down the bank to the flat of the stretch. In the twinkling of an eye it had turned over, carrying Comer with it—twice it repeated its performance. When it finally came to a standstill, the wheels were pointing skyward and Comer was underneath with a crushed chest.

A peculiar thing about it was that Comer was driving the car which was entered by Cliff Woodbury, the winner, having swapped seats with him just a few minutes before the start of the race. While Comer lay beneath Woodbury's machine, Woodbury was fighting to hold a slim lead, being pressed very hard by Ralph Hepburn, the Bostonian.

The crowd had just settled back, not knowing that the spill had been fatal, and was beginning to take an interest in things again, when Jimmy Gleason, the Philadelphian, riding at the head of a closely packed trio and making his forty-fifth lap, suddenly swirled off the track into the iron guard rail, sending his car back several feet and throwing it to the inside of the track. The car leaped into the air like something alive, throwing Gleason on to the track, and almost together car and driver rolled down the track. Ray Keech, almost directly behind, tried to clear the rolling Gleason. Bob McDonough, directly in his rear, also just touched Keech, but got away clean and keeping his car right side up drove on to the sand at the inner edge of the track and dismounted.

Lou Moore, second at Indianapolis this year, the third member of the trio, was right on the heels of McDonough and also grazed Keech. His car turned over, throwing Moore on to the track, but righted itself in the dirt. Moore got up nonchalantly and went to the aid of Gleason, who by this time was being cared for by the pit attendants. Gleason was taken to the hospital, where he is suffering from a broken ankle, a sprained wrist and possible internal injuries, but he will recover.

Keech in this situation showed rare judgment, coolness and courage. Keeping four wheels on the track, he rode cleanly off the boards and across the 10 feet of dirt and straddled the steel rail which is placed at the inside of the track for protection. Never once did he leave his seat. He was not seriously hurt.

I thought that the fates had played enough pranks for one afternoon, but such was not the case. It seemed that the machines were possessed of a desire to have revenge on these drivers who were punishing them by pushing them to world record figures, and the third spill was indeed a heartbreaker. This came on the 58th mile and happened almost in the spot where Hartz had met trouble. Like the previous accident which had just happened to Gleason, fate again chose the stretch almost in front of the officials stand and press box to play her final prank. Smiling Dave Evans, cheerful under every condition, was to play the leading role. He hit the air pocket to which I have referred. His car jumped several feet into the air, and landing on the track, started for the steel plated guard rail. It hit the rail with such force that it completely loosened the front wheels and axles from the rest of the car and sent them spinning down the track.

Evans' experience as a former cowboy in his native state of Texas must have stood him in good stead in this spot. That's the only way I can account for his actions in this supreme crisis. Imitating a rodeo rider throwing himself from a falling horse, he took a beautiful dive from his car, and rolled barrel-like, half-way down the stretch, with his car 10 feet away. It was a rolling race between the man and the machine, and the man, going at incredible speed, was winner by a good margin. Reaching the dirt his luck held and he was thrown to his feet. Raising his hands as though in thanksgiving for his miraculous escape, he walked to those who were coming to his assistance, amid a thunderous roar of applause. He had not a broken bone and, although he had multiple minor injuries and a good supply of slivers, from his trip on the boards, he was still the Smiling Dave Evans of Texas.

Meanwhile the yellow flag for the drivers to slow down had been waved, but none of the drivers appeared to notice it and finally the white flag, signaling the men to stop for consultation, was waved. This not being respected, the checkered flag denoting the finish was hoisted. The drivers and the executive committee met on the track and decided to continue the race October 27th, thus giving the drivers an opportunity to repair their cars and the management a chance to go over the track and repair it, if necessary.

The entire distance covered by the contestants was only 62½ miles, at which time Woodbury was trying to hold his lead from Ralph Hepburn, followed by Stapp, Batten and Bergere. In the second group, but also very much in the race, were Billy Arnold and Leon Duray, the latter driving his famous Black Streak. Earl Devore, Deacon Litz and Meyers were in this group.

The time for the distance was 32 minutes and 3 seconds, but this does not give any kind of an idea of the speed at which the drivers were going as they had slowed down on several occasions because of the accidents.

In a summary we might say that it was a speedy race and showed some wonderfully clever driving, particularly in the manner in which the drivers avoided the cars wrecked on the track.

At 50 miles, the positions were Woodbury, Hepburn, McDonough and Moore. This order was maintained until the Gleason spill, when Moore, McDonough and Keech were put out of the running.

# READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

## Reasons for Overheating

I would like to get all the information I can on the subject of cars overheating. I study all the time and try to keep up to date as I am expected to know all makes and models here. Please give me all the information you can on this subject. I have asked several experienced and technical men and they always give you the same old line of "look at your fan belt, water circulation, oil, etc." but when everything seems all right and the car still overheats, what then? I have been 13 years at the business and have never felt that I could be sure of curing the car from overheat.—T. C. Thompson, Grand Forks, British Columbia.

IT is true that the curing of some cars from overheating is a tough problem. Many little things may contribute to the trouble, or the overheating may merely be the result of one serious condition in the car. In order to help you check down trouble, we are showing herewith 40 causes of overheating. This information is taken from an article that appeared in Sept. 2, 1926, issue of MOTOR AGE. We would be glad to send you one of these issues if we had it available, but our stock is depleted. We mention the date for the reason that you may have this issue on hand and we believe that you will get much good from studying this article over carefully.

### 40 Causes of Overheating Cooling System

1. Radiator:
  - a. Coated with lime or rust on inside.
  - b. Tubes or passages clogged with sediment.
  - c. Tubes or passages pinched, bent, or dented.
  - d. Fins or air passages stopped up with mud.
  - e. Radiator covered with heavy paint or enamel.
  - f. Water level too low to permit circulation.
  - g. Shutters not opening far enough.
  - h. Thermostat not functioning properly.
2. Fan:
  - a. Blades too flat.
  - b. Fan belt slipping on account of looseness, or oil, or because the fan bearings are too tight.
3. Hose:
  - a. Old and thin, permitting same to collapse under suction of pump thus stopping circulation.
  - b. Inner coating of rubber loose, causing stoppage of water flow, particularly on thermo-syphon systems.

4. Pump:
  - a. Impeller not turning.
  - b. Excessive wear between sides of impeller and pump housing.
  - c. Packing worn so that pump sucks air at high speed.
5. Water Jacket:
  - a. Clogged with mud, lime, rust, or rubber from hose.
  - b. Core not completely removed from castings.

### Engine and Its Accessories

1. Engine:
  - a. Too tight as result of being new or overhauled.
  - b. Oil pump not circulating oil to all frictional surfaces.
  - c. Oil too thin and diluted to effectively separate wearing surfaces.
  - d. Oil too heavy for oil circulating system to properly distribute, thus letting some parts run dry.
  - e. Valves not well seated.
  - f. Pistons and rings not properly fitted.
  - g. Scored cylinder walls.
  - h. Insufficient clearance at ring ends.
2. Carburetor:
  - a. Mixture too rich.
  - b. Mixture too lean.
3. Ignition:
  - a. Ignition improperly timed.
  - b. Automatic advance stuck or operating too freely.
  - c. Breaker points spring too weak.
  - d. Breaker points badly pitted.
  - e. Ignitor camshaft worn, permitting cam to wobble.
  - f. Plugs fouled, or improperly set.
4. Clutch:
  - a. Slipping.

### Chassis

1. Running gear does not roll freely.
  - a. Brakes dragging. (On Fords, transmission bands may be too tight.)
  - b. Rear axle and driveshaft binding.
  - c. Tires too soft.

### Personal Element

- a. Riding the clutch.
- b. Excessive use of low gear to "beat it out" in traffic.
- c. Failure to shift to a lower gear when engine labors in sand or mud or on a hill.
- d. Failure to advance the spark after starting.
- e. Driving with foot on the brake pedal.

## The Chart Should Work

I would like to know if your chart in the February issue of MOTOR AGE on compression in pounds and compression ratio is a practical or theoretical chart, as I have tried it on three new cars and two cars driven about 1000 miles, and on two jobs on which I ground the valves myself, and in each case the result was from 48 to 55 lb. Your chart gave it 100 to 110 lb. Please put me straight on this.—A. F. Dreyer, 1011 Baronne St., New Orleans, La.

THE chart you refer to is evidently the one on page 49 of the February 23 issue of MOTOR AGE. This chart is entirely practical, having been very carefully worked out in automotive laboratories. It is theoretical, however, to the extent that it assumes that there is no blow-by. This may be unfair. We would suggest that you place about a tablespoon of 600 W on the head of each of the pistons to seal them against blow-by when making the test, and we believe you will find that your actual compression is much higher than previously indicated.

We assume, of course, that the valve job in each case is 100 per cent or as near to that as they ever are.

## Another Hot One

The writer has a 1925 Master Buick Six on which all kinds of difficulty with the water boiling has been experienced, and am wondering whether or not you can give me any suggestions as to what might possibly be the source of this trouble. The first that this condition was noted was earlier in the season and it was at first thought it might be due to the excessive humidity in the air, but now that the weather has grown considerably cooler the same condition still exists. Our first steps taken to correct this trouble was to thoroughly flush the system with diluted muriatic acid followed by two different flushings with sal soda. Needless to say, a great deal of scale and other foreign matter was removed but this doesn't seem to be the solution to the problem. New hose connections have been installed and there are not any other apparent leaks anywhere in the system. Neither are there any apparent signs of water in the oil when this has been changed. The radiator was filled to the top several days ago and the car was hardly driven for the following three days, at the end of which time it became necessary to add five quarts of water to bring it up to the overflow level. The engine became very hot before these five quarts were added, and it hardly seems possible that this amount could escape in such a short length of time. If you can give me any idea as to what might be causing this trouble, or any suggestions to follow up, it will be greatly appreciated.—Eclipse Machine Co., Elmira, N. Y.



## [READERS' CLEARING HOUSE]

**W**E suspect that this particular car is drawing air in through the water pump packing; the pump being of a centrifugal variety it would be likely to do this if there were any looseness in the packing at all. This would force air through the water, increasing its volume and causing it to overflow. Also it would reduce its cooling ability and would cause the high temperatures that you refer to. Obviously when the car was at rest you would not have a chance of seeing what was going on. We would, accordingly, suggest that after filling your radiator to within a few inches of the top, you have someone race the engine to what would give you a road speed of 40 to 50 miles an hour. If bubbles are then seen in the top of the radiator you may be sure that air is leaking at the water pump and that it will be necessary to tighten the packing or replace the part that is badly worn.

### Leak at Camshaft Bearing

A man came in my shop with a Jewett Model 18-22 engine 95085. The oil leaks out in the flywheel case and the main bearings have all been checked over. New gaskets were put on the oil pan but the oil seems to work out between the engine block and the flywheel housing. Is there any way that the oil can leak out of the rear camshaft bearings?—Chas. H. Moore, Box No. 94, Edgar, Nebraska.

**Y**OU are on the right trail when you suspect that your trouble is caused by leakage at the rear camshaft bearing. An expansion type plug is used in this plate and has evidently come loose. It will be necessary to remove your flywheel housing to get at this part in order to put in a new plug, or expand and solder into place the old one.

### Buick Brake Adjustment

Will you please tell us how to adjust the brakes on Buick cars. What we want is complete details so we may know the finer points. —Litzner & Co., Willow and Franklin Sts., Long Island City, N. Y.

**T**HE following applies to 1926, 1927, 1928 and 1929 cars. Before adjusting brakes:

- A. Jack up all four wheels.
- B. Free up all brake connections with penetrating oil.
- C. See that all wheel bearings are correctly adjusted.
- D. Check for eccentric drums by rotating wheel while observing lining-to-drum clearance at anchor.

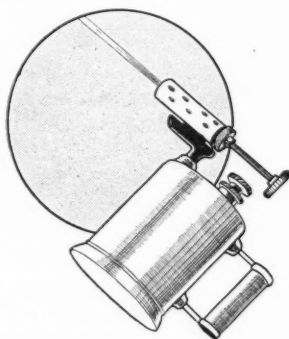
#### Minor Adjustment

1. Adjust pedal stop screw (2) so that pedal comes to within 3/16 of an inch of floorboards.
2. Loosen band adjusting nuts (6T and 6B) on the right rear and right front brakes.

## SHOP KINKS

*Ideas that have proved useful*

**F**OR the purpose of oiling springs and eliminating squeaks in the chassis and between body and fenders, I use penetrating oil squirted from a blow torch. The torch is filled just the same as if it were to be used for heating, then it is pumped to a high pressure and powerful pin-like stream will come out, which will reach all parts of the underneath side of a car.—Boyd Lindsay, Lewiston, Idaho.



3. Then adjust lining-to-drum clearance of left rear and left front at anchors (8). Feeler should show .015 of an inch clearance at lining near anchor.

4. Adjust lining-to-drum clearance at guides (11) to .025 to .030.

5. Adjust lining-to-drum clearance at ends by means of the adjusting nuts (6T and 6B). Feeler should show not less than .025 to .030 clearance at these points.

6. Now adjust right front and right rear brakes to same specifications as outlined in paragraphs 2, 3, 4 and 5.

7. Make sure that equalizer bar has square pulling movement and stands square across and in alignment with levers 3 and 4. If bar does not stand square across any slight correction for alignment can be made at the adjusting screws 6T and 6B.

Attach the pedal depressor. Move pedal down until rear brakes are almost locked. Now observe position of equalizer bar and try rear wheels for equalization. If equalizer bar does not stand square and parallel when both rear brakes are equalized, there is something wrong with the adjustment of the rods and levers which should be checked and adjusted as follows:

#### Adjustment of Stops, Levers and Rods

8. Band Lever Stops—Adjust rear

brake band operating lever stops (1) so that pins No. 13 stand proper distance to the rear of the adjusting bolt (7). On the Master Six and 120 and 128-inch wheelbase models, the pins 13 should stand 1 1/8 inches to the rear of the adjusting bolt, and on the Standard Six and 114 1/2-inch wheelbase models, 1 1/4 inches. See view A.

9. Disconnect front brake pull cables. Work front brakes by hand and allow them to snap into the released position. With pull cables disconnected the cross shaft outer levers (12) should rest against their stops.

10. Pedal Stop—Disconnect pedal pull rod and adjust stop screw (2) so that pedal comes within 3/16 in. of floorboard.

11. Rear Pull Rods—Disconnect rear pull rods (by removing clevis pins) at their front ends. Make sure that cross-shaft outer levers (12) are against their stops and rear band operating levers against their stops (1). Now set lever No. 3 so that it is in alignment and parallel with lever No. 4. With levers in this position, adjust length of rear pull rods so that clevis pins will enter eyes of levers 9 without disturbing levers 3 and 4.

12. Pedal Rod—Disconnect clevis pin at rear end of pedal pull rod. Then with lever 3 standing straight down and levers No. 12 against their stops adjust length of rod by turning clevis until clevis pin can be inserted in center hole of equalizer bar, then insert the clevis pin and cotter pin.

13. Front Idler Rods—Disconnect the front idler rods at their front ends where they are pinned to the levers No. 5. Then with levers 12 against their stops and with the top eye of levers 5 one inch ahead of a vertical line through the center of the lever retaining bolt, adjust the rod length (by turning adjustable clevis) until the clevis pin can be inserted in levers (12) without moving levers from stops. On the 1928 models the front pull cable levers 5 are inverted, as shown in view C. On these models the bottom eye of lever 5 should stand 1 inch forward of the center line of the clamping or retaining bolt.

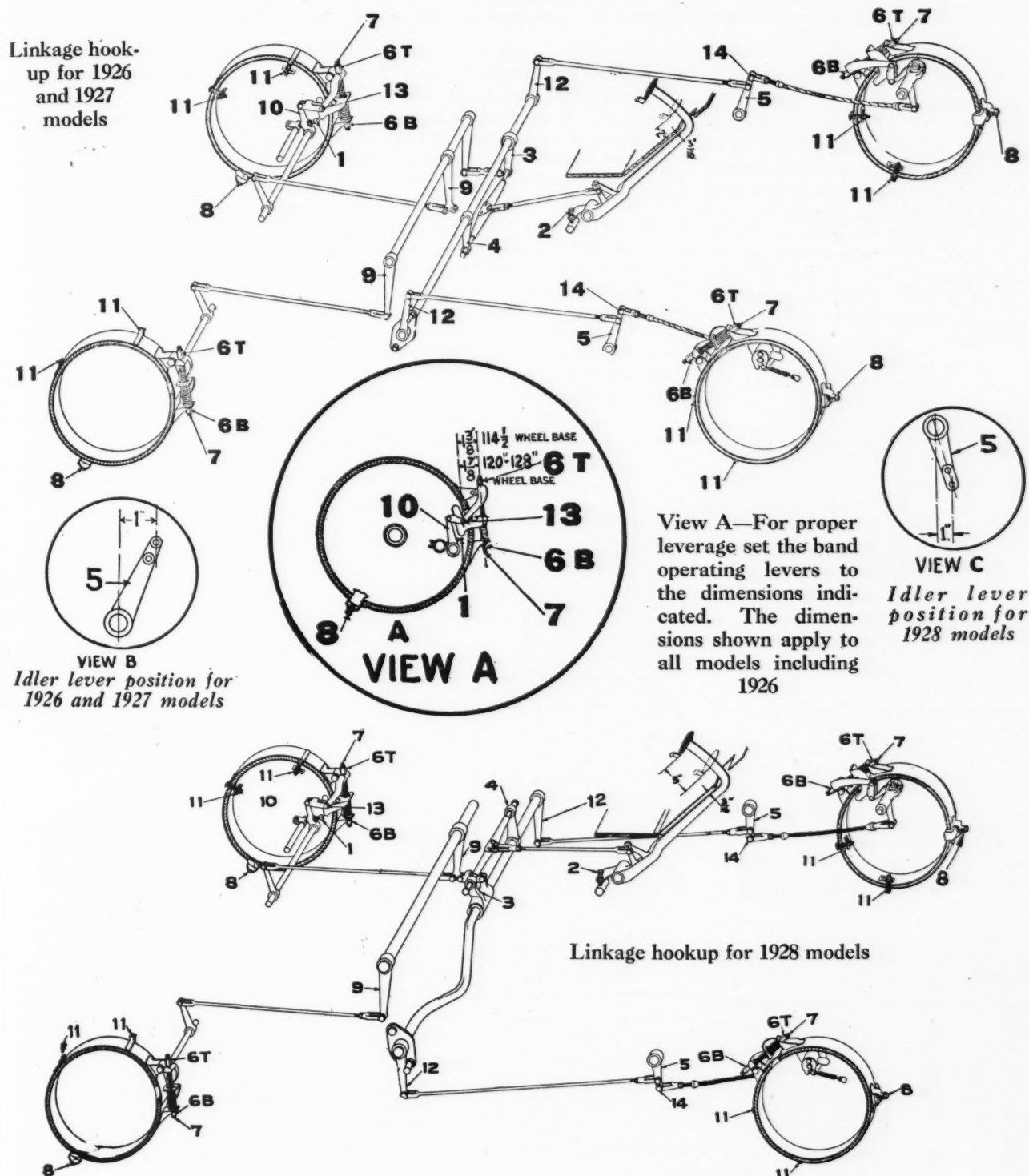
14. Front Pull Cables—Adjust the right front pull cable by turning the wheels to the extreme right. Then remove cable clevis pin (14) and adjust cable length (by turning clevis) so that clevis pin can be inserted without moving levers 12, then insert clevis pin and cotter pin.

15. Adjust the left front pull cable in a similar manner by turning the wheels to the extreme left.

16. Test holding ability and equalization with brake testing equipment and

## [READERS' CLEARING HOUSE]

## Buick 1926-1927 and 1928



make final adjustments at nuts 6T and 6B.

This information is from the Chilton publication, BRAKES, by Paul Dumas.

The illustration and text used here show the practical nature of brakes. A new and thoroughly revised edition containing 16 additional pages cover-

ing all new models will be available October 19. The price is \$2 postpaid.

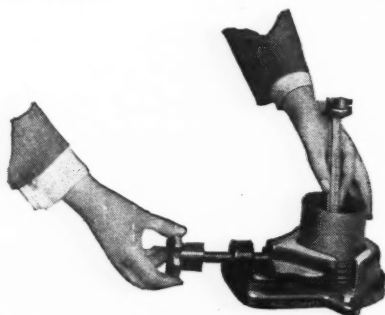
(Turn to page 42, please)



## Useful Shop Equipment

### Piston Vise

**T**HE Piston Vise, K-45, is a tool that should be included in the purchase of a connecting rod testing and straightening fixture. Without the aid of a piston vise, a connecting rod is usually clamped in an ordinary bench vise when the piston is installed or removed. In doing this there is a chance of distorting or bending the connecting rod to some extent that will develop into piston slaps or other conditions that will not permit the motor to run as quietly as it should.



When removing piston rings and fitting new rings and piston pins the piston vise is of equal importance.

The piston vise should be bolted securely to the top of a bench in some convenient location and when it is necessary to loosen or tighten the piston pin clamp bolt for the purpose of removing or installing pistons, place the piston with the top down in the vise and tighten securely. The vise has babbitt jaws which will not damage the piston or rings in any way. The weight is 15 lb.

It is manufactured by the Kent-Moore Organization of Detroit and Kalamazoo.

### Brake Service Equipment

**T**HREE new items of brake repair shop equipment have just been placed on the market by the Chicago Rivet & Machine Company. These include a brake lining stretcher clamp, a brake lining cutter, and a cutting and grinding lathe for truing brake drums.

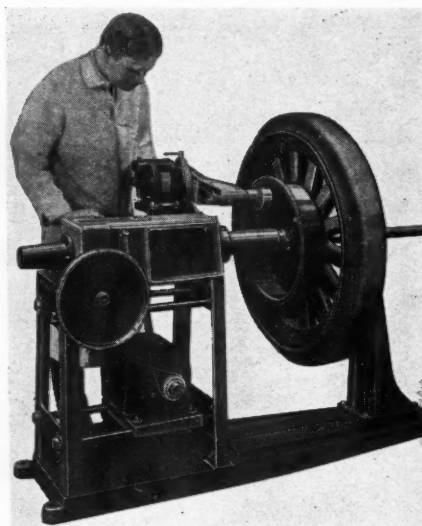
The brake lining clamp has been designed particularly for use with internal expanding shoes. Price is \$2.75.

An adjustable guide, allowing the entire width of the 4 in. blade to be used, is the outstanding feature of the new lining cutter the company offers. This feature makes the blade wear evenly, the maker declares. The blade is removable for sharpening. List price of this item is \$15.

The third new item includes a grinding attachment for use on drums which

are too hard to be cut successfully with lathe tools. One of the features of the lathe is the fact that the cutter is stationary and the work is brought to the tool, thus making for rigidity and elimination of chatter and vibration. The feed is so fine, according to the manufacturer, that a perfectly smooth finish is obtained with the lathe tool alone; no other grinding or polishing being necessary, except in the case of very hard drums.

This item is supplied in three sections, the first, the spindle head with legs, at a list price of \$540; the second, with base and arbor support, at an additional cost of \$100; and the third, with grinding attachment, at an extra cost of \$185, making a total for the complete outfit of \$825.



The machine is equipped with a variable speed attachment, making possible three speeds at which the drum can revolve, to take in all diameters and widths of wheels. The cutting tool is a standard lathe tool, mounted in a conventional post. The motor for the spindle head is a 1 hp. Wagner, and the motor for the grinding attachment is a ¼ hp. Wagner.

### Portostat

**T**O the automotive trade there is now available an electrical instrument known as the four-meter Portostat, which makes it possible for a battery owner to "see" why it needs recharging before being dismantled. Its chief value might be said to be that it eliminates all doubt in a customer's mind. It will test, in addition to bat-

teries, starting motors, generators, ammeters, cut-out relays and starting switches.

The new Portostat is equipped with two 2¼ in. voltmeters with 0-3 scale and one with 0-3, 0-30 scale. The dials are marked with the words "DEAD—DISCHARGED—HALF CHARGED—and CHARGED," this marking making it easier for battery owners to understand the reading. Each voltmeter shows a reading of one cell in the battery so that the condition of all three cells, at the time of testing, can be determined at once.

The ammeter has an 0-300 scale with dial markings showing the proper discharge rate for all sizes of batteries. Above each voltmeter is mounted a miniature bulb which will glow brightly if the cell is in good condition and show dim when trouble exists.

The front panel is set at an angle which makes easy reading of all meters possible and at the top is a carrying handle, making it possible for the instrument to be carried about more readily.

Fittings on the Portostat are nickel plated. The side frames and front are finished in gray Duco. The combination makes a pleasing appearance.

The carbon pile discharge load is varied by use of the control handle which increases or decreases the pressure on the carbon disks. The heavy discharge leads are furnished with the instrument as well as four small leads.

Thirty ampere and thirty volt binding posts used in making electrical tests



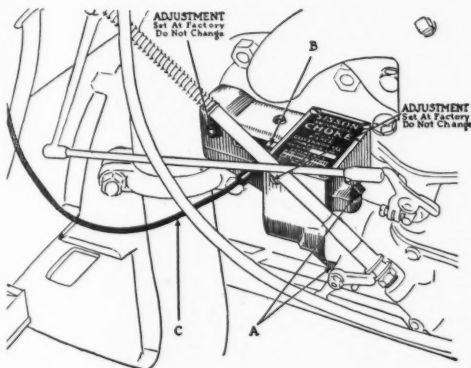
are on the left-hand side casting and on the right-hand casting is a removable link for starting motor tests.

The price of the new Portostat is \$65. It can be purchased from the Forest Electric Co., Newark, N. J.

## The Latest in Accessories

### Automatic Choke

THE Sisson Automatic Choke, it is claimed, will take care of every detail of starting and carburetor adjustment without any attention from the operator. This device is quite simple in its construction. It simply bolts over the air intake of the carburetor and a wire runs across the front of the dash to the starter. The starter switch is unscrewed and a sheet of insulating material with a copper terminal is placed under the starter switch, which is again returned to its original position. The copper terminal referred to is then in such a position that whenever the starter pedal is pressed an electrical circuit is closed through the Automatic Choke. If the engine is cold, this electrical current closes the choke valve entirely while the pedal is being pressed. Just as soon as the starter pedal is released, the choke valve opens partially, and is then opened the rest of the way by two thermostatic controls. One of these thermostats controls the air opening according to the temperature of the engine and the other operates a valve according to the temperature of the atmosphere. If the engine is already warm, when the starter pedal is pressed, the valve controlled by the air temperature thermostat is already partially open, so that it is impossible



to overchoke the engine. This is a product of the Pierce Governor Co., of Anderson, Ind.

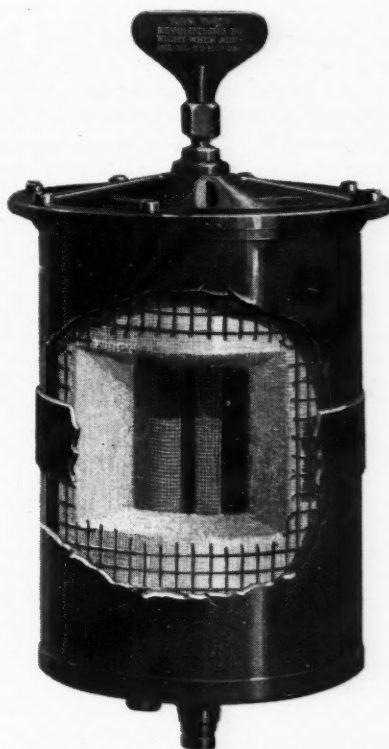
### Oil Filter

A VERY different oil filter is announced by the Stewart-Warner Speedometer Corporation, Chicago. Its unusual design explains why it remains as efficient to the last day of its usefulness as when first put into service.

The filter consists of a heavy gage sheet steel container approximately 8 in.

high overall by 5 1/4 in. diameter. In the bottom are two openings through which used and cleaned oil flow in and out, respectively, and an opening in the top in which is inserted a stake with knob attached.

Inside is a roll of special filter cloth devised and manufactured by Stewart-Warner. The filter consists of a fine mesh cloth surfaced with a fine filter material. Approximately 27 sq. ft. of this is wound in the form of a reel with a hollow center which forms a chamber into which the used oil flows. Only the three inner windings of the cloth are actually used in this process of oil cleaning. It is the claim of the man-



ufacturers that the "Clearifier gets all the dirt all the time." The designers of the Clearifier have gotten clear of loss of efficiency by using a highly efficient filter which can be removed from the path of the oil when it becomes filled with dirt particles.

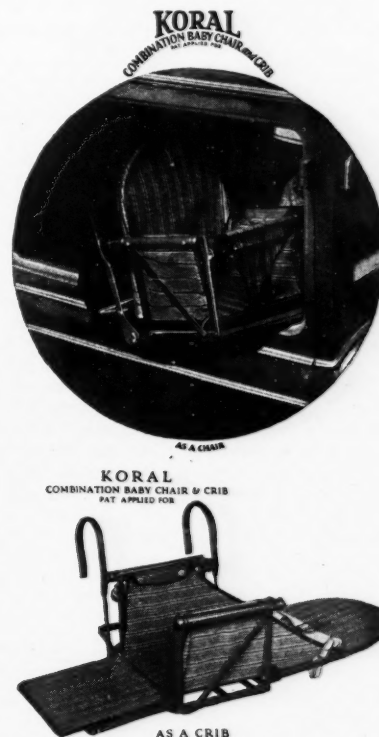
This is accomplished by the knob and stake. When oil is added to the crankcase, the operator merely twists the knob and the innermost filter area facing the used oil chamber is reeled away from contact with the oil, while clean, fresh surface is exposed.

The Clearifier will thus remain efficient for its entire life of 10,000 to

20,000 miles, say the manufacturers. When the filter cartridge is used up, a service man just takes off the top of the device, pulls out the old cartridge, and drops another in.

### Combination Baby Chair and Crib

THE Koral combination baby chair and crib hangs over either side of



the front seat and is so constructed as to permit it to revolve in any direction. All parts coming in contact with the car upholstery are covered with rubber, and the device needs no installation with the use of tools as it can be instantly attached or detached by anyone. It is not in the way of other passengers and does not obstruct any of the car entrances as it is placed in such a way that the child is safe and always in full view. When not in use it can be collapsed flat, occupying a small space. One of its important features is the strapping device, as when the child is sitting or lying down it is strapped in comfortably and securely. This device is manufactured by the Ben Koral Co., of Chicago, and sells for \$9.50 east of the Rocky Mountains and \$10 west of the Rockies.



## [READERS' CLEARING HOUSE]

(Continued from page 39)

**Drilling for Oil**

Is it feasible to tighten up connecting rods on a Master Six Buick to keep the oil pressure gage from losing pressure after the car gets warm? This happens in a Buick that we have. In this the upper half of the lower connecting rod bearings was drilled to supply oil to the pistons, etc., the same as is done on the 1927, '28 and '29 models. The same size hole was drilled. After we drilled this hole the pressure would stay up to normal for 10 or 15 miles, depending on the weather and then would drop a bit. The car had absolutely no sign of any knock. After the bearings were tightened the pressure stayed up but the rings apparently were not getting any too much oil.—S. Dakota Reader.

**T**IGHTENING your bearings was perfectly proper. Evidently the trouble is that the hole in the upper half of your rod does not register with the oil ducts in the crankshaft. You can compensate for any misalignment and increase the flow of oil through the small hole without appreciably reducing your pressure by countersinking the small hole on the bearing side. You could do this with about a  $\frac{3}{8}$  drill.

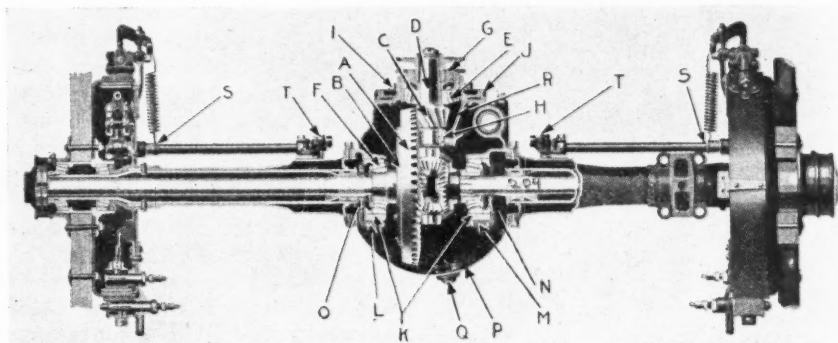
**Pump Drain**

I have a 1924 6-cylinder Oldsmobile. When it stands over night the pump drains and will not pump without priming. After priming the oil pressure comes up OK. I have installed a new check valve in the pipe line at the bottom of the oil pan without results. Should this have a spring to hold the ball to rest? If the plug at the end of the camshaft were out so that it leaked oil, would this cause the pump to drain? Any information will be appreciated.—C. H. Gens, Westfield, N. Y.

most essential to prevent drainage of the pump. Incidentally, its presence is very important to prevent extremely high oil consumption. Obviously the absence of this plug would make itself

then on a hard drive on a hot day the expansion which takes place forces the lubricant out through the wheel bearings or at the pinion housing.

You do not say in your question



known not only by the high oil consumption but by the great amount of oil dripping from the rear end of the engine. We suspect that the seat of your check valve is marred or that there is some dirt in it. No spring is required in the ball check valve for the reason that the oil, tending to flow down from the pump when the engine is stopped, forces the ball to its seat. If this part is damaged, a new one can be purchased for something like \$1.50.

**Axle Grease Leaks**

On a Model 63 Cadillac, how can the grease in the rear axle be stopped from leaking out? Is the leak due to the use of too light a grease?—John G. Egan, Jr., 1635 Clay St., Topeka, Kan.

where this grease is getting away. We have seen bad grease leaks around the center of the housing, again at the pinion, and at other times at the wheels. Probably the most common grease leak is at the right rear wheel. This is due to the crown of the road.

If you will consult your nearest Cadillac dealer you can get a special leather cup-shaped grease retainer for this car. If grease is leaking from both sides of the rear axle, or even if it is not, it is a good plan to install two of these leather cups. These are installed by removing the differential gear assembly, pulling the shafts out a few inches, and pressing the leather cup on over the inside sleeve of the rear axle housing. When you get the cups the Cadillac dealer will be glad to instruct you specifically in the installing of the parts.

**Safe Reboring Limit**

Please inform me regarding the reboring of a 1927 Erskine engine. We are wondering if this will stand reboring from  $2\frac{1}{8}$  in. to  $2\frac{3}{4}$  in. Any information you can give us will be greatly appreciated.—Wudel Chevrolet Co., Tripp, South Dakota.

**W**E would not advise enlarging this bore  $\frac{1}{8}$  in. The block is not designed for it. We believe that .025 in. would be sufficient for almost any condition that might develop in service. If you need more than this it would probably be better to install a new block.

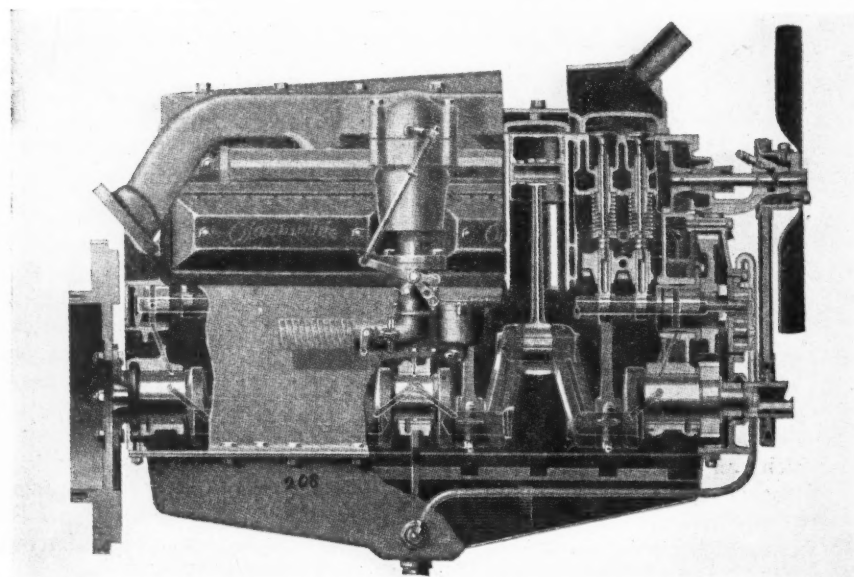
**Change Impracticable**

Please tell me if it is possible to install fabric universal joints in a Willys-Knight model 70, and if so where can I get these special parts?—Henning's Garage, Palatine, Ill.

**T**HE contemplated installation of fabric universals in this particular car is neither practical nor possible.

**T**O help you to visualize the lubricating system, we are showing a cross-sectional view of the engine. By looking at this closely you will see that the presence of the plug in the cylinder block at the end of the camshaft is

**O**F course, the use of too light a lubricant would tend to cause leaking. Also, over-filling is a common cause of this trouble. One thing that occasionally happens is that the rear axle is filled a little too full and



# Prices, Weights and Equipment of Current Passenger Car Models

Important changes in Specifications and Price Tables since last issue:

BUICK  
GRAHAM-PAIGE  
KISSEL  
OLDSMOBILE  
STEARNS-KNIGHT

Passengers and Model F.O.B. Price Doors Net Weight\* Standard Equipment

<b>AUBURN</b>				
2-4p. Roadster...	\$1195	3	2980	aeghmnrw
5p. Touring...	1195	4	3070	aeghmnrw
4p. Cabriolet...	1395	2	3125	aeghmnr
5p. Sp. Sedan...	1295	4	3300	aeghmnr
5p. Sedan...	1395	4	3300	aeghmnr
5p. Victoria...	1395	4	...	...
<b>"88"</b>				
2-4p. Roadster...	1495	3	3265	aeghmnrw
2p. Speedster...	1695	2	3245	aeghmnrw
5p. Touring...	1495	4	3380	aeghmnrw
4p. Cabriolet...	1695	2	3410	aeghmnr
5p. Phaeton Sed...	1895	4	3600	aeghmnr
5p. Sp. Sedan...	1595	4	3590	aeghmnr
5p. Sedan...	1695	4	3590	aeghmnr
5p. Victoria...	1695	4	...	...
<b>"115"</b>				
2-4p. Roadster...	1995	3	3655	aeghmnrw
2p. Speedster...	2195	2	3590	aeghmnr
5p. Touring...	...	4	...	...
7p. Touring...	...	4	...	...
2-4p. Cabriolet...	2195	2	3880	Beghjmnr
5p. Phaeton Sed...	2395	4	3990	aeghmnr
5p. Sp. Sedan...	2095	4	3995	aeghmnr
5p. Sedan...	2195	4	3995	aeghmnr
7p. Sedan...	2445	4	...	...

<b>BUICK</b>				
<b>"116"</b>				
5p. Phaeton...	\$1225	4	...	ag
2p. Bus. Coupe...	1195	2	...	ag
5p. Sedan 2d...	1220	2	...	agt
5p. Sedan 4d...	1320	4	...	agt
<b>"121"</b>				
4p. Sp. Roadster	1325	...	...	aghmnr
3p. Bus. Coupe...	1395	...	...	aghmnr
4p. Spec. Coupe...	1450	...	...	aghmnr
5p. C. C. Sedan	1450	...	...	aghmnr
5p. Sedan...	1520	4	...	aghmnt
<b>"123"</b>				
5p. Phaeton...	1525	4	...	aghmnr
7p. Touring...	1550	...	...	aghmnr
5p. Coupe...	1865	...	...	aghmnr
5p. C. C. Sedan	1875	...	...	aghmnt
4p. Conv't. Cpe...	1875	...	...	aghmnt
5p. Sedan 4d...	1935	4	...	aghmnt
7p. Sedan...	2045	4	...	aghmnt
7p. Limousine...	2145	4	...	aghmnt

<b>CADILLAC "341"</b>				
<b>"Fisher"</b>				
2p. Roadster...	\$3350	2	4690	aeghmnrpx
4p. Phaeton...	3450	4	4725	aeghmnrpx
4p. Sp. Phaeton...	3950	4	...	Beghikmnp
<b>"Fleetwood"</b>				
7p. Touring...	3450	4	4760	aeghmnrpx
2-4p. Coupe...	3295	2	4830	aeghmnrpx
2-4p. Conv. Coup.	3595	2	4835	aeghmnrpx
5p. Coupe...	3595	2	4910	aeghmnrpx
5p. Sedan...	3695	4	5040	aeghmnrpx
5p. Town Sedan...	3495	4	5030	aeghmnrpx
7p. Sedan...	3795	4	5140	aeghmnrpx
7p. Imp. Sedan...	3995	4	5180	aeghmnrpx
<b>"Fleetwood"</b>				
5p. Sedan...	\$4195	4	...	aeghmnrpx
5p. Sedan Cab...	4195	4	...	aeghmnrpx
7p. Sedan...	4295	4	...	aeghmnrpx
7p. Sedan Cab...	4195	4	...	aeghmnrpx
5p. Imperial...	4345	4	...	aeghmnrpx
5p. Imperial Cab...	4345	4	...	aeghmnrpx
7p. Imperial...	4345	4	...	aeghmnrpx
5p. Club Cab't...	4395	...	...	...
5p. Phaeton Sed...	5750	...	...	...
5p. Im. Pha. Sed...	5995	...	...	...
Town Cab Con...	5250	4	...	aeghmnrpx
Town Cab Con...	5500	4	...	aeghmnrpx
Lim Bro'm Con...	5500	4	...	aeghmnrpx

<b>CHANDLER</b>				
<b>"65"</b>				
5p. Touring...	\$ 895	4	...	ahmnr
5p. Sportster...	995	2	...	ahmnr
3p. Coupe...	875	2	...	ahmnr
5p. Sedan...	895	4	...	ahmnr
2-4p. Coupe...	955	2	...	ahmnr
5p. Del. Sedan...	995	4	...	ahmnr
2-4p. Cabriolet...	1075	2	...	ahmnr
<b>"Royal 75"</b>				
5p. Sedan, 2d...	1295	2	...	...
2-4p. Coupe...	1295	...	...	...
5p. Sedan, 4d...	1395	4	...	...
5p. Del. Sedan...	1495	4	...	...
<b>"Big Six"</b>				
7p. Touring...	1725	4	3360	ahjmnrw
5p. Met. Sedan...	1525	4	3800	ahmnr
4p. Coupe...	1725	2	3355	ahmnr
3p. Ctry. Club...	1725	2	3355	ahmnr
5p. Royal Sedan...	1725	4	3800	ahmnrpx
2-4p. Cabriolet...	1825	2	3450	ahmnr
7p. Sedan...	1925	4	3895	ahmnrpx
7p. Berline Sed...	2025	4	3945	ahmnrpx
<b>"Royal 85"</b>				
7p. Touring...	1995	4	3655	ahjmnrpx
4p. Coupe...	1925	2	3640	ahmnrpx
4p. Ctry. Club...	1925	2	3640	ahmnrpx
5p. Sedan...	1795	4	3900	ahmnrpx
7p. Sedan...	2195	4	3950	ahmnrpx
3-5p. Cabriolet...	2095	2	3600	ahmnrpx
5p. Del. Sedan...	1995	4	4005	Bhilmnrpx
7p. Berline Sed...	2295	4	4000	Bhilmnrpx

<b>CHEVROLET</b>				
2p. Roadster...	\$495	2	2030	dr
5p. Touring...	495	4	2090	dr
5p. Coach...	585	2	2360	dhr
2p. Coupe...	595	2	2235	dhr
5p. Sedan...	675	4	2435	dhr
2-4p. Con. Sp. Cab	695	2	2265	dhr
5p. Imperial...	715	4	2405	dhr

<b>CHRYSLER</b>				
<b>"65"</b>				
2-4p. Roadster...	\$1065	2	2730	aghn
5p. Touring...	1075	4	2770	aghn
2p. Bus. Coupe...	1040	2	2780	aghn
5p. Sedan, 2d...	1065	2	2905	aghn
5p. Sedan, 4d...	1145	4	2960	aghn
2-4p. Coupe...	1145	2	2875	aghn
<b>"75"</b>				
2-4p. Roadster...	1555	2	3190	aeghmnr
2-4p. Coupe...	1535	2	3235	aeghmnr
5p. Royal Sedan...	1535	...	3340	aeghmnr
4-5p. Town Sedan	1655	...	3360	aghmnr
<b>Imp. "80"</b>				
2-4p. Roadster...	\$2795	3	3870	aeghmnrwx
5p. Sedan...	2945	4	4125	aeghmnrpx
7p. Sedan...	3075	4	4250	aeghmnrpx
5p. Town Sedan...	2995	4	4140	aeghmnrpx
7p. Sedan Lim...	3495	4	4285	aeghmnrpx

<b>CUNNINGHAM</b>				
<b>"V-7"</b>				
4p. Sp. Touring...	\$6500	4	4500	Ceghikmnp
7p. Touring...	7000	4	4600	Ceghikmnp
4p. Coupe...	8000	2	4700	Ceghikmnp
6p. Limousine...	8500	4	5000	Ceghikmnp
<b>DAVIS "99"</b>				
4p. Polo Rdster...	\$1795	2	3295	aeghmnr
5p. Touring...	1795	4	3325	aeghmnr
4p. Coupe...	1865	2	3345	aeghmnr
5p. Emp. Sedan...	1885	4	3475	aeghmnr
<b>DE SOTO</b>				
2-4p. Roadster...	\$845	2	2635	ghnw
5p. Phaeton...	845	4	2445	ghn
2-4p. Roadster...	880	2	2390	B
2p. Bus. Coupe...	845	2	2465	ghn
5p. Sedan...	845	2	2580	ghn
5p. Sedan...	885	4	2640	ghn
<b>DIANA "St. 8"</b>				
5p. Phaeton...	\$1695	4	3100	agmn
5p. Roy. Rdster...	1795	2	2995	agmnw
5p. P.B. Rdster...	1895	2	2995	Bgmnrw
5p. Cab. Rdster...	1995	2	3160	aghmnr
5p. Collap. Rdstr...	2195	2	3160	aghmnr
5p. 2d. Sedan...	1795	2	3170	aghmnr
5p. 4d. Sedan...	2095	4	3275	aghmnr

<b>DODGE BROS.</b>				
<b>"Std. 6"</b>				
2-4p. Conv't Cab...	\$945	2	2570	Bghr
2p. Coupe...	875	2	2490	aghr
5p. Sedan...	895	4	2710	aghr
5p. Sedan Del...	970	4	2780	aghr
5p. Sp. Sed. Del...	1045	4	...	Beghikr
<b>"Victory 6"</b>				
5p. Touring...	995	4	2775	aghmnr
5p. Sp. Touring...	1245	4	...	Beghikmnr
4p. Sp. Roadster...	1245	2	...	Beghikmnr
2p. Coupe...	1045	2	2650	aghmnr
4p. Coupe Del...	1170	2	2850	Beghjmnr
5p. Sedan...	1095	4	2855	aghmnr
4p. Brougham...	1095	2	2750	aghmnr
4p. Del. Bro'm...	1170	2	2850	Beghjmnr
5p. Del. Sedan...	1170	4	2955	aghmnr
5p. Sp. Sedan...	1295	4	3150	Beghikmnr
<b>"Senior"</b>				
5p. Vic. Bro'm...	1575	2	...	agmnr
5p. Sedan...	1675	4	...	agmnr
2-4p. Coupe...	1675	...	...	agmnr
5p. Sport Sed...	1795	4	...	Bgikmnr
2-4p. Sp. Coupe...	1795	2	...	Bgikmnr
5p. Landau Sed...	1845	...	...	Bgikmnr

<b>du PONT "E"</b>				
4p. Roadster...	\$2800	...	3700	afghkmpnx
5p. Touring...	2800	4	3850	afghkmpnx
4p. Coupe...	3200	...	3850	afghkmpnx
4p. Conv't Coupe...	3400	2	3800	afghkmpnx
5p. Sedan...	3400	...	4100	afghkmpnx
5p. Con. Sedan...	3750	4	4100	Bfghikmpnx
<b>141" W.B.</b>				
...Roadster...	4360	...	...	Beghikpr
...Sp. Phaeton...	4560	...	...	Beghikpr
7p. Touring...	4560	...	...	aeghikpr
...Conv. Coupe...	4360	...	...	aeghikpr
...Club Sedan...	4360	...	...	aeghikpr
5p. Sedan...	4410	...	...	aeghikpr
5p. Victoria...	4410	...	...	aeghikpr
5p. Limousine...	4675	...	...	aeghikpr
7p. Sedan...	4675	...	...	aeghikpr
7p. Limousine...	4875	...	...	aeghikpr
...Conv. Sedan...	5150	...	...	Beghikpr
...Town Cab...	5750	...	...	aeghikpr

<b>DURANT</b>				
<b>"Four"</b>				
...Roadster...	\$595	...	1950	ah
...Coupe...	595	...	2185	ah
5p. Sedan...	595	2	2330	ah
5p. Sedan...	695	4	2480	ah
2-4p. Conv. Cab...	...	...	2210	ahr

<b>"55"</b>				
2p. Coupe...	795	...	2395	ah
5p. Sedan...	795	...	2385	ah
5p. Brougham...	895	...	2425	ah
<b>"65"</b>				
5p. Touring...	795	4	2385	aghmnr
2-4p. Sp. Rdster...	1025	2	2365	Beghikmnr
2-4p. Collap. Cab...	\$1045	2	2525	aghmnr
2-4p. Coupe...	975	2	2425	aghmnr
5p. Sedan...	975	2	2600	aghmnr
5p. Sedan...	1075	4	2675	aghmnr
5p. Brougham...	1175	4	2695	Beghikmnr
<b>"75"</b>				
5p. Sedan...	1385	4	3130	aghmnr
5p. Brougham...	1550	4	3180	Beghikmnr
<b>ELCAR</b>				
<b>"6-70"</b>				
4p. Roadster...	\$1295	2	2580	ahnr
5-7p. Touring...	1295	...	...	ahnr
5p. Brougham...	1295	2	2670	ahnr
5p. Sedan...	1295	4	2750	ahnr
<b>"8-78" Std.</b>				
2-4p. Roadster...	1395	2	...	ahnr
5p. Touring...	1395	...	...	ahnr
2-4p. Coupe...	1395	2	...	ahnr
5p. Sedan...	1395	4	...	ahnr
<b>"8-78 Royal"</b>				



# Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment
<b>FRANKLIN</b>					<b>HUPMOBILE</b>					<b>LINCOLN</b>					<b>MARMON</b>				
"Series 12 B"					"Century 6"					"8"					"68"				
119" W.B.					5p. Phaeton.....					2p. Spt. Rdster..					2-4p. Roadster...				
3p. Coupe.....					2-4p. Sportster..					2-4p. Club Rdstr.					5p. Sedan.....				
4-5p. Vlc. Bro'm.					7p. Phaeton.....					7p. Spt. Touring.					5p. Vic. Coupe...				
5p. Sedan.....					5p. Sedan 2d.....					4p. Spt. Phaeton.					2-4p. Coupe.....				
5p. Ox. Sedan.....					4p. Coupe.....					4p. Coupe.....					7p. Phaeton.....				
5p. Spt. Sedan.....					5p. Sedan.....					4p. Sedan.....					2-4p. Roadster...				
3-5p. Con't Cpe.					2-4p. Cabriolet..					5p. Sedan.....					2-4p. Coupe.....				
128" W.B.					5p. Phaeton.....					2p. Coupe.....					5p. Vic. Coupe...				
2-4p. Sp. Runab't.					2-4p. Sportster..					7p. Sedan.....					4p. Sedan.....				
5p. Sp. Touring..					7p. Phaeton.....					7p. Limousine...					5p. Sedan.....				
7p. Touring.....					5p. Sedan, 2d....					4p. Berline.....					2p. Speedster...				
7p. Sedan.....					4p. Coupe.....					7p. Limousine...					4p. Speedster...				
7p. Ox. Sedan.....					5p. Sedan, 4d....					7p. Brougham...					5p. Phaeton.....				
7p. Limousine...					2-4p. Cabriolet..					6p. Ber. Landau.					7p. Tour. Speed...				
					5p. Phaeton.....					7p. Cabriolet...					2p. Coupe Rdstr.				
					2-4p. Sportster..					7p. LaBaron Cab.					5p. Town Coupe...				
					7p. Phaeton.....					7p. Holbrook Cab					2p. Coupe.....				
					5p. Sedan, 2d....					7p. Collap. Cab					4p. Victoria.....				
					4p. Coupe.....										5p. Brougham...				
					5p. Sedan, 4d....										5p. Sedan.....				
					2-4p. Cabriolet..										7p. Sedan.....				
					5p. Phaeton.....										5p. Cus. Sedan...				
					2-4p. Sportster..										7p. Cus. Sedan...				
					7p. Phaeton.....										7p. Cus. Limou...				
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					2-4p. Cabriolet..														
					5p. Phaeton.....														
					2-4p. Sportster..														
					7p. Phaeton														

## Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment
<b>OLDSMOBILE</b>					<b>PIERCE-ARROW</b>					<b>ROLLS ROYCE</b>					<b>STUTZ "BB"</b>				
<b>"F-28"</b>					<b>"81"</b>					<b>"Si. Ghost"</b>					<b>"Custom"</b>				
2-4p. Sp. Rdstr.	\$995	2	2610	aeghmr	2p. Runabout.	\$2600	2	3350	afghlmnr	Open Models.				Bghjkmprx	2p. Speedster.	\$3495	2	4478	aefghlmnr
5p. Sp. Touring.	995	4	2640	aeghmr	4p. Touring.	2700	4	3365	afghlmnr	Closed Models.				Bghjkmprx	4p. Speedster.	3595	4	4509	aefghlmnr
2-4p. Coupe.	925	2	2660	aeghmr	7p. Touring.	2850	4	3500	afghlmnr	<b>"New Phan"</b>					4p. Speedster.	3845	4	4600	aefghlmnr
5p. Sedan, 2d.	925	2	2795	aeghmr	5p. Club Bro'm.	2475	2	3540	afghlmnr	Open Models.				Beghjkmp	2p. Black Hawk	4895	2	4302	beghlmnr
2-4p. Spt. Coupe.	995	2	2675	aeghmr	2p. Coupe metal.	2650	2	3460	afghlmnr	Closed Models.				Beghjkmp	4p. Black Hawk	4945	2		beghlmnr
5p. Sedan, 4d.	1025	4	2870	aeghmr	5p. Brougham.	3250	2	3540	afghlmnr						2p. Coupe.	3495	2	4649	aefghlmnr
5p. Landau Sed.	1085	4	2860	aeghmr	2p. Coupe leath.	2650	2	3490	afghlmnr						4p. Vic. Coupe.	3495	2	4679	aefghlmnr
<b>"DeLuxe Series"</b>					5p. Club Sedan.	2750	4	3635	afghlmnr						5p. Coupe.	3545	2	4769	aefghlmnr
5p. Phaeton.	1145	4	3800	Beghjklnr	2-4p. Coupe met.	2750	2	3530	afghlmnr						5p. Sedan.	3570	4	4977	aefghlmnr
5p. Roadster.	1145	2	2770	Beghjklnr	5p. Sedan.	2750	4	3605	afghlmnr						5p. Brougham.	3570	4	4820	aefghlmnr
Spec. Coupe.	995	2	2760	aeghjkln	2-4p. Coupe lea.	2750	2	3560	afghlmnr						2p. Cab. Coupe.	3695	2	4520	aefghlmnr
Sport Coupe.	1145	2	2840	Beghjklnr	7p. Con't Cpe.	2850	2	3455	afghlmnr						7p. Speedster.	3895	4	4748	aefghlmnr
Sedan.	1175	4	3005	Beghjklnr	5p. Club Land.	2850	4	3640	afghlmnr						5p. Country Club.		4	5618	aefghlmnr
DeL. Landau	1235	4	3005	Beghjklnr	7p. Sedan.	2850	4	3700	afghlmnr						7p. Sedan.	3895	4	5618	aefghlmnr
					4p. Coupe.	2950	2	3490	afghlmnr						7p. Sedan Lim.	3995	4	5159	aefghlmnr
					2-4p. Conv't Cpe.	2950	2	3525	afghlmnr						5p. Collap. Sed.	3995	5	5020	aefghlmnr
					7p. Enc. Dr. Lim.	2950	4	3755	afghlmnr						5p. Collap. Lim.	4095	5	5030	aefghlmnr
					5p. Sed. Land.	3550	4	3605	afghlmnr						7p. Collap. Lim.	4195	7		aefghlmnr
					7p. Sed. Landau.	3700	4	3700	afghlmnr						<b>"Weyman-Cus"</b>				
					7p. Enc. Dr. Land.	3800	4	3755	afghlmnr						<b>131" W.B.</b>				
					5p. Opera Bro'm	7000	5	36							<b>2p. Black Hawk</b>				
															<b>5p. Sedan.</b>				
															<b>4p. Sedan.</b>				
															<b>4p. Coupe.</b>				
															<b>5p. Landau Sed.</b>				
															<b>145" W.B.</b>				
															<b>5p. Sedan.</b>				
															<b>5p. Sedan.</b>				
															<b>7p. Sedan.</b>				
															<b>7p. Limousine.</b>				
															<b>5p. Sedan Lim.</b>				
															<b>7p. Landau Lim</b>				
															<b>"Salon Cus."</b>				
															<b>5p. PW Sedan.</b>				
															<b>7p. PW Sedan.</b>				
															<b>7p. Con. T'n Car</b>				

### KEY TO SYMBOLS

\*—Italic figures denote shipping weight.  
A—Wood wheels with spare.  
a—Wood wheels.  
B—Wire wheels with spare.  
b—Wire wheels.  
C—Optional wheels with spare.

- c—Type of wheels optional.
- D—Disk wheels with spare.
- d—Disk wheels.
- e—Front and rear bumpers.
- f—Front bumper.
- g—Shock absorbers or snubbers.
- h—Automatic windshield wiper.

- i—Trunk and trunk rack.
- j—Trunk rack, no trunk.
- k—Spare tire.
- l—Spare tire lock.
- m—Engine heat indicator.
- n—Dash gasoline gage.

c—Car heater.  
 p—Cigar lighter.  
 r—Rear traffic signal.  
 s—Spotlight.  
 t—Vanity and smoking set.  
 u—Smoking set.

v—Vanity set.  
w—Windshield wings.  
x—Clock.  
†—Overall length.  
§—Price on application.



# Mechanical Specifications of Current Passenger Car Models

This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

MAKE AND MODEL	Wheel Base (Inches)	Tire Size	Make and Model	Number of Cyls, Bore and Stroke	Rated H.P.	Piston Displacement	Valve Arrangement	ENGINE				ELECTRICAL SYSTEM				REAR AXLE		BRAKES		Steering Gear—Make	Rear Spring—Type and Length	Chassis Lubrication—	ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS										
								Maximum Brake Horsepower at Specified Speed	Compression Ratio	Camshaft Drive	Piston Material	No. Main Bearings	Crankshaft Vibration Damper?	Oiling System	Oil Cleaner?	Radiator Shutter	Carburetor	Air Cleaner?	Ignition System					Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universals—Type and Make	Type and Make	Gear Ratio	Foot—Type and Location	Hand—Type	4-Wheel Type	
Auburn, 76	120	28x5.25	Lyc.	WS	6-27x4 1/4	19.8	185	L	60-3400 5	05	Ch. Als.	Als.	4	Y	PG	Y	N	Sch.	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	A-Bos—American-Bosch	
Auburn, 88	125	30x6.00	Lyc.	GS	8-32x4 1/4	33.8	247	L	88-3200 5	15	Ch. Als.	Als.	5	Y	PG	Y	N	Sch.	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	A-K—Atwater Kent	
Auburn, 115	130	30x6.00	Lyc.	AMD	6-33x4 1/4	33.8	247	L	115-3300 5	25	Ch. Als.	Als.	5	Y	PG	Y	N	Sch.	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	A-L—Auto-Lite	
Buick, 116	121	30x6.00	Own	GS	8-32x4 1/4	33.8	247	L	74-2800 4	3	He. C.I.	He.	4	Y	PC	Y	N	Sch.	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Ada—Adams	
Buick, 121 & 129	121-128 1/2	32x6.50	Own	6-33x4 1/4	33.8	247	L	91-2800 4	3	He. C.I.	He.	4	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Cadillac, 121 & 129	121-128 1/2	32x6.50	Own	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Cadillac, 124	124	32x6.50	Own	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Chandler, Big 6	124	32x6.50	Own	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Chandler, 65	109	28x5.50	Own	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Chandler, Royal 85	118	28x5.50	Own	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda	
Chandler, National	124	30x4.50	Own	Nat'l	6-31x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Chrysler, 95	173 1/2	30x4.50	Own	Nat'l	6-31x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Chrysler, Imperial '80	180 1/2	30x4.50	Own	Nat'l	6-31x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Chrysler, 1914	130 1/2	30x4.50	Own	Nat'l	6-31x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Cunningham, V-7	132	32x6.75	Own	V-7	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
DeSoto, 99	120 1/2	30x6.00	Own	145	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
DeSoto, 120 1/2	120 1/2	30x6.00	Own	145	6-33x4 1/4	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8	125 1/2	32x6.20	Own	Y	6-28x4 1/2	33.8	247	L	95-3000 5	0	Ch. C.I.	Ch.	5	Y	PC	Y	N	Sch.	N	N	N	D-R	P. Long	War	m-U-P	m-U-P	4.9	E-T	H	Ross	S-56 3/4	Bi	Al—Alameda
Dodge Brothers, 8																																	

# Have **YOU** Driven a car equipped with **Lockheed INTERNAL** **4-wheel Hydraulics?**

Whether you are a motor car manufacturer, engineer, or dealer—you will be interested in the remarkable performance of Lockheed INTERNAL Four Wheel Hydraulic Brakes.

As a matter of fact, in your own interest, you should know just how good these brakes are—and that is particularly the case if you make, design or deal in cars equipped with *mechanical* brakes.

You should realize, personally, just what kind of competition *in point of braking per-*

*formance, you are up against.* The flurry caused by four-wheel brakes is over—but the matter of brake performance will never be out of the minds of motor car owners and motor car buyers.

For effective, easy braking is as fundamental to safety, as is the instinct for self-preservation, as is the desire for comfort. People are discussing brakes today more than ever before—and today more than ever before, the approval of Lockheed Hydraulics, and especially Lockheed Internal Hydraulics, is positive and potent.

HYDRAULIC BRAKE COMPANY, DETROIT, MICH., U. S. A.

## **LOCKHEED HYDRAULIC** *Four* **BRAKES** *Wheel*





# Plymouth

**CHRYSLER**

## Share In This Tide of PLYMOUTH Sales!

Plymouth demand continues to grow so that even with the enormous facilities of all the huge plants now under Chrysler management, production is still short of filling 100 per cent all the orders that an enthusiastic public has placed and is placing.

But the whole situation spells an enormous volume of sales and profit possibilities for Plymouth dealers not only

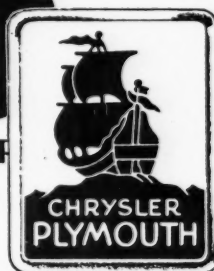
now but for as far into the future as anyone can estimate.

You owe it to yourself, therefore, to see if there is an opportunity for you to obtain a share in the wealth that this overwhelming demand for Plymouth is giving to thousands of dealers the country over.

Wire, write or phone and we will acquaint you with the possibilities for your territory.

**\$675**

AND UPWARD  
f. o. b. Detroit



PLYMOUTH MOTOR CORPORATION, DETROIT, MICHIGAN  
(Division of Chrysler Corporation)



## To the Automobile Trade:

THE publishers of this paper have known and have had the confidence of the manufacturers for many years—and we know them to be conservative and thoroughly experienced in manufacturing and in retail merchandising. The company is financially sound and reliable, properly capitalized and has a personnel of highest reputation.

Dealers who are interested in learning more about this remarkable new car are assured that any inquiries made to the manufacturer, through this publication, will receive prompt and courteous attention.

*Publishers*

**MOTOR AGE**

*56th and Chestnut Streets, Philadelphia*

There will be presented to the automobile trade, at the New York automobile show, a new automobile, new in every respect and from every angle. For trade reasons, the name of this new creation of automobiledom cannot be divulged at this time.

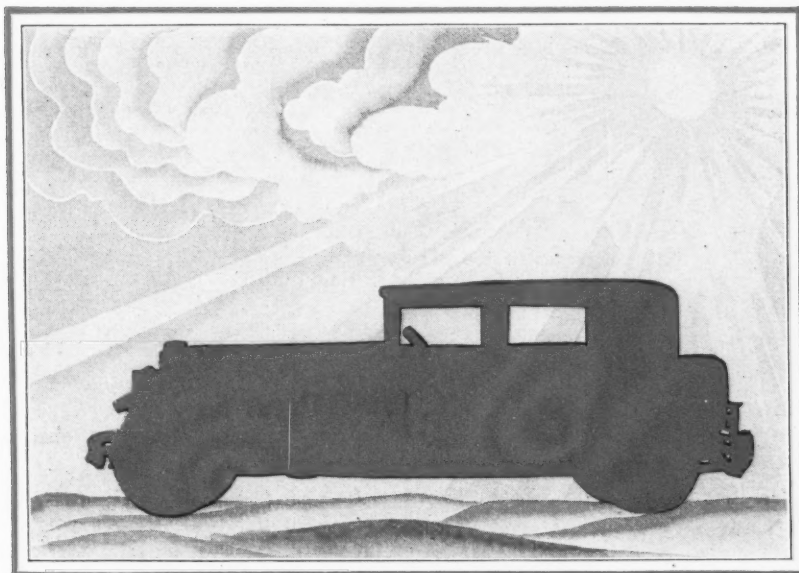
The manufacturers of the new car—of established and successful lineage—believe that any product worthy of existence must have an earned right to existence, that it must serve a definite purpose, that it must fill a definite need—and that it must be able to create a demand by its inherent values.

This organization has chosen to build the world's finest automobile, ranging in price from approximately \$2300 upwards. These cars will be so specialized that they will be absolutely non-competitive in their fields. The same fundamental

features will be incorporated in the entire line. While no attempt will be made to enumerate the many features of the new creation at this time, you will certainly be interested in knowing about the novel—yet thoroughly tested—features that will make this car dominantly distinctive.

No car worthy of being called a high grade car can be marketed in future without a transmission with four forward speeds. The four speed transmission used in this highly advanced car is novel in design and unusually quiet on both third and fourth speeds. The action of the gearshift is smooth as velvet, permitting the shifting of gears smoothly at any speed.

And note this—the new car will be equipped with one of the greatest mechanical necessities installed on a motor car within the last ten years.



An automatic device which, even without the brakes being applied, will not permit the car to roll backwards when the car stops on an incline or a hill. There is, of course, full freedom of the reverse gear. The device is so positive and self-functioning that the driver is never conscious of its presence until it is needed. The desirability of this device in hilly cities, at the stop and go signs, for mountain driving, and indeed at hundreds of places in every city in the country is immediately apparent. Women drivers will enthusiastically welcome this outstanding advancement.

The car will be equipped with other safety features that have been tested and proven, which will, without possibility of contradiction, make it *the safest car that has ever been built.*

The worm drive has been adopted for all models because by the incorporation of this one feature, a lower center of gravity is obtained, making the car easier to handle, better riding, smoother operating, better balanced, and infinitely safer—as well as improving by far the advantages of quietness and smooth operation.

The steering and the roadability of the car will be so far ahead of any possible competition that there can be no comparison.

And this is vital—the new car will be equipped with real non-glare headlights for the protection not only of the occupants of the car but for the safety of other users of the highway.

The bodies that will grace this new line of cars will be of unusual distinction—such as never have been offered by any motor car manufacturer. In the development of the cars, the coach maker

and the body designer were a part of the engineering staff that designed the composite car, and, perhaps for the first time in the history of the industry, have had full say in the design and development of a chassis best adapted to body designs. The art of coach making is demonstrated in a striking way. It is no exaggeration to say that these new cars will, we believe, be the most beautiful, regardless of price, that ever have been offered to the motor buying public. Each car will practically be a custom-built masterpiece. Naturally, the car will be equipped with a novel engine of decidedly proven design—insuring tremendous power for its size.

The story of its remarkable performance and outstanding features will be told in later editions of this publication.

### *A Statement to Automobile Dealers:*

As has been explained, the name of the new car cannot yet be divulged, and for similar reasons, all signatures are omitted from this advertisement. You are assured, however, these statements are only indicative of the remarkable car that will be announced at the time of the New York show.

There is nothing untried or experimental in the new car. The engineering advancements that will make it the outstanding motor car of America have been thoroughly tried and tested—they are the result of years of development.

Dealers who desire additional information are invited to write—at once—to Manufacturer New Car, care Motor Age, 56th and Chestnut Streets, Philadelphia. Communications will, in no way, obligate the inquirer.



for Economical Transportation



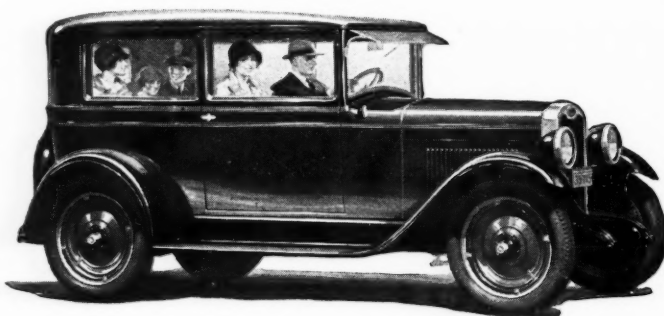
*And now, a*  
**Million**  
*Chevrolets since Jan 1st*

## *First Choice of the Nation for 1928!*

Never before in the history of the Chevrolet Motor Company have Chevrolet dealers enjoyed such an enormous volume of sales and profits as during 1928—for the Bigger and Better Chevrolet has won a million buyers since January 1st! Month after month this amazing car has swept on to more and more spectacular heights of popularity—making and breaking new records of success with impressive regularity! Never has any Chevrolet won such overwhelming public acceptance—for never has any low-priced car so completely provided those basic elements which the vast majority are now demanding in the cars they buy. Naturally, the Chevrolet franchise is everywhere considered more valuable and more desirable than ever before—with Chevrolet dealers throughout America enjoying unusual business prestige in their respective communities.

The Roadster, \$495; The Touring, \$495; The Coach, \$585; The Coupe, \$595; The 4-Door Sedan, \$675; The Convertible Sport Cabriolet, \$695; The Imperial Landau, \$715.

**CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN**  
Division of General Motors Corporation



Q U A L I T Y   A T   L O W   C O S T



# *The performance behind the volume*



Before selecting carbureters as standard equipment, automobile manufacturers subject them to every conceivable test.

Carter carbureters have been tested and selected, in greater quantity than any other.

The fast mounting national total proves conclusively that Carter volume is founded solidly and squarely upon advanced engineering and quality manufacture.

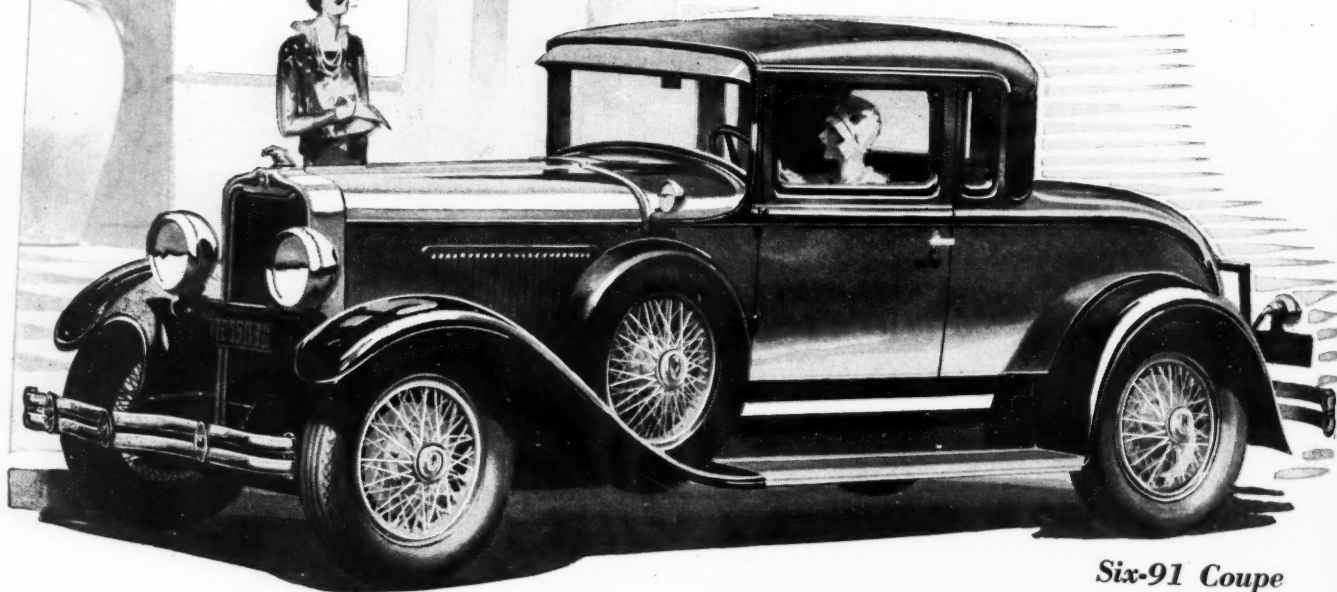
CARTER CARBURETOR CORPORATION, ST. LOUIS  
Division of American Car and Foundry Company

# CARBURETER

T. M. REG.



Never has  
the Peerless  
Franchise  
been as valu-  
able as now



Six-91 Coupe

\$1895

f. o. b. factory

# PEER

PEERLESS HAS ALWAYS



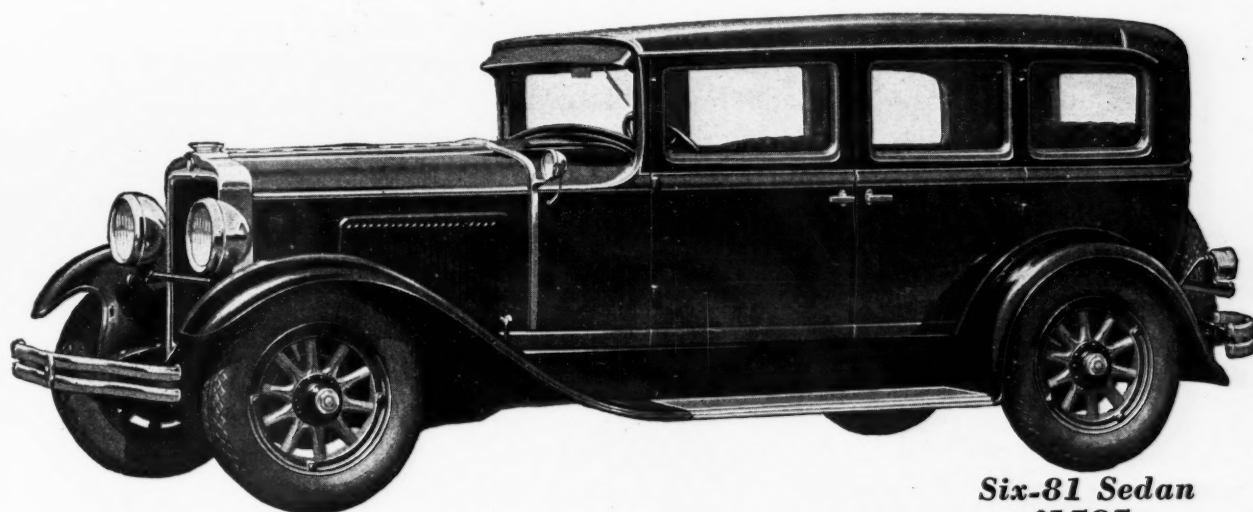
**N**EVER before—in the twenty-seven years of Peerless success as a car manufacturer—has this company's franchise offered distributors and dealers such opportunity for profits.

The new 1929 Six-81 announced in August augurs one of the outstanding successes of the year. Smartly beautiful—speedy—youthful—full of zest.

Built by one of the soundest institutions in the motor car field—bearing an honored old name—backed by powerful advertising in magazines and newspapers.

If that kind of a proposition looks good to you, get in touch with us at once. Wire, write or phone.

PEERLESS MOTOR CAR CORPORATION • *Cleveland, Ohio*



*Six-81 Sedan*  
**\$1595**  
*f. o. b. factory*

# PEERLESS

B E E N . A . G O O D . C A R





# DURANT

**M**ONTH after month, since September 1927, Durant Motors has scored gain after gain in both sales and production. This advance is conclusively shown by the latest registration figures available, those of the first eight months of 1928 which show a gain in Durant sales over the same months of 1927 of 26.5% as against an increase of only 8.9% by the entire automotive industry in the same period.

The first nine months sales of Durant Motors this year were greater than those of the entire year of 1927.

The Durant Franchise is a triple franchise covering a complete line of both four cylinder passenger cars and six cylinder passenger cars and four and six cylinder trucks in the most popular price range—\$595 to \$1550—a triple market opportunity for dealers.

Are you interested in handling this brilliantly successful line for an organization that is growing faster than the Automotive Industry itself?



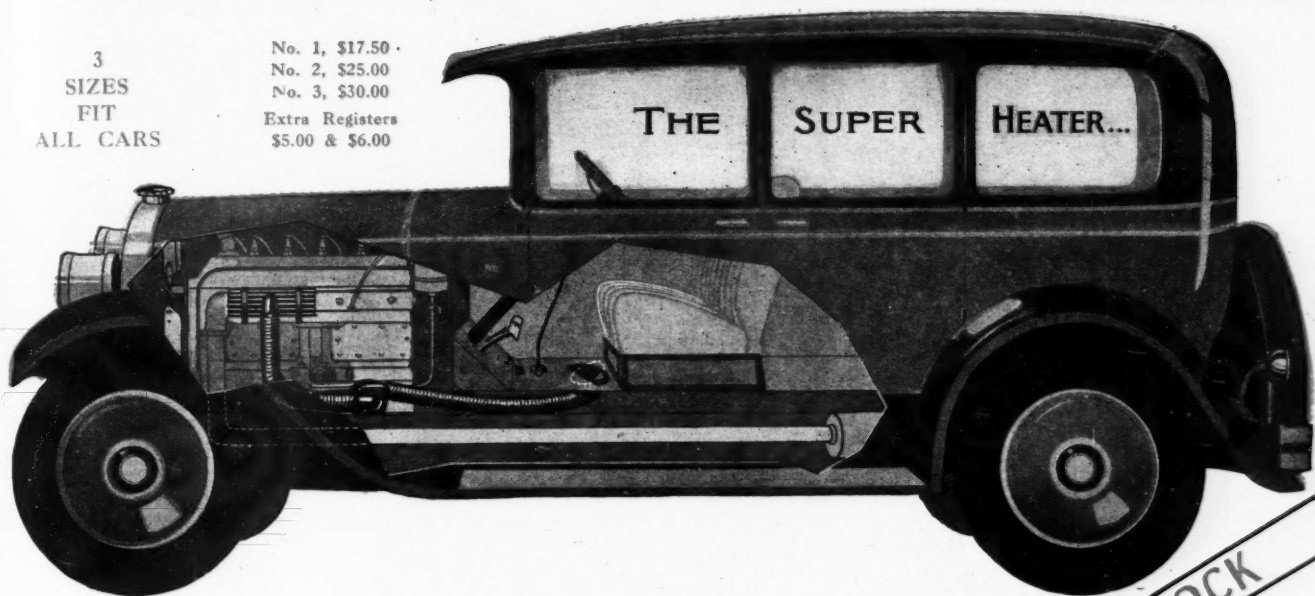
**DURANT MOTORS, INC., 250 West 57th Street, New York**

*Factories at Elizabeth, N. J., Lansing, Mich., Oakland, Cal., Leaside, Ontario, Canada*

# The SUPER HEATER

3  
SIZES  
FIT  
ALL CARS

No. 1, \$17.50  
No. 2, \$25.00  
No. 3, \$30.00  
Extra Registers  
\$5.00 & \$6.00



## Positively HEATS the Car with heated FRESH air under *all* conditions

Real heating comfort—so regulated as to satisfy anyone. Whether the car is running at full speed—or the motor is idling and even when the radiator shutter is closed, the SUPER HEATER will circulate the heat with equal efficiency. The electric driven fan does it. No dead air or hot spots. No fumes or smell.

### How the SUPER HEATER Operates

Clean, fresh air is instantly drawn through a corrugated steel stove clamped around the exhaust manifold (the hottest spot on the engine)—is heated to between 150° and 200° F., and forced into the car. The motor driven fan runs on the battery and uses less current than a cowl light.

*SUPER HEATERS are remarkably well standardized. They are easily installed.*

Send for booklet C.

PRICES  
\$9.75 — \$14.50  
Send for booklet L.

**METAL STAMPING CO.**  
Established 1872  
Long Island City, New York

SMALL STOCK

BIGGER PROFITS

BETTER WINTER SALES

#### SAVE!

The frames and cores are made in separate units. Three sizes of cores will fit complete range of frames for all models.



## WEATHER KING

### ALL WEATHER RADIATOR SHUTTER

The Practical, common sense Shutter.  
The upper half can be opened while the lower half is closed—full protection against freezing where freezing occurs first.  
Can be regulated to suit all weather conditions—  
Quickly installed—no holes to drill—controlled from the dash.

**SEND  
FOR  
STOCK  
SAVING  
PLAN**



# VALVE SEAT REAMER SETS



No. 80 NET PRICE COMPLETE \$82<sup>50</sup>



## Be Ready for 'em!

**N**EW car models . . . motor changes . . . intense competition . . . grief for the shop that hasn't proper reamer equipment . . . golden opportunity for the shop that has!

Again "Sioux" comes to the rescue with a complete Valve Seat Reamer Set that meets the new demands for fast, accurate work on practically 90% of all automobile motors. Sioux Roughing Reamers for removing hard deposits; Sioux Finishing Reamers; Sioux 15° and 75° Nicked Tooth Reamers for narrowing valve seats; Sioux Pilot Stems in standard sizes and oversizes to assure the snug fit necessary for a perfect job and to avoid wobbling and traveling in worn guide holes;—42 different items, all conveniently arranged in a handy metal box. Get full information about this new set.

**Your Jobber Sells It**

ALBERTSON & CO.  
Sioux City, Ia.



**I**NFORMATION regarding the selling franchise for the new De Soto Six — latest product of Walter P. Chrysler—is available to all motor car dealers through the following De Soto district offices:

*Albany*  
840 City Savings Bank Building

*Atlanta*  
907 Norris Building

*Boston*  
426 Statler Building

*Buffalo*  
615 Jackson Building

*Charlotte*  
1114 Johnston Building

*Chicago*  
544 Wrigley Building

*Cincinnati*  
1129 Enquirer Building

*Cleveland*  
500 Cook Building

*Dallas*  
1301 Dallas National Bank Building

*Denver*  
215 Republic Building

*Detroit*  
12300 Oakland Ave.

*Fargo*  
12 Security National Bank Building

*Kansas City*  
618 City Bank Building

*Memphis*  
512 Dermon Building

*Minneapolis*  
609 Lincoln National Bank Building

*New York*  
1940 Fisk Building

*Oklahoma City*  
1017 Braniff Building

*Omaha*  
825 Woodmen of World Building

*Philadelphia*  
908 Schaff Building

*Pittsburgh*  
502 Highland Building

*Portland*  
714 Terminal Sales Building

*San Francisco*  
352 Flood Building

*St. Louis*  
435 Missouri Building

*Washington*  
707 Investment Building

*Inquiries addressed to our District Managers at these points will receive prompt attention and be held in strict confidence.*

# DE SOTO SIX

DE SOTO MOTOR CORPORATION  
{Division of Chrysler Corporation} Detroit, Michigan



# Your Profit-Making "Sense"

unerringly tells you to

## Sell a Winner

whose supremacy has long been  
established by tried and  
proven merit



That's why prosperous Dealers  
throughout the United States  
sell ~ and keep on selling

# ARVIN HEATERS

**For ALL Cars**

THEY RETAIL

**\$1.75 to \$35.00**

If you're not already cashing in on Arvin Heater profits ~  
WRITE FOR DETAILS

## The ARVIN Roll Call A Heater for Every Car

Factory Serial No.	Car	Model	List Price
A-1	Auburn 6	7R-8R	\$10.00
A-2	Auburn 6	6Y-7U	10.00
A-3	Auburn 8	Model 66-1927	10.00
A-4	Auburn 8	Model 77-1927	10.00
A-5	Auburn 8	Model 88-1927	10.00
50	Auburn	all Coach and Sedan (Imperial)	35.00
B-1	Buick Standard 6	1928	8.00
B-2	Buick Master 6	1928	8.00
44	Buick Standard 6	1925-1928	6.00
45	Buick Master 6	1925-1928	6.00
50	Buick	all Coach and Sedan (Imperial)	35.00
50	Cadillac	all Coach and Sedan (Imperial)	35.00
50	Chandler	all Coach and Sedan (Imperial)	35.00
C-1	Chevrolet Regular	1928	6.50
C-2	Chevrolet Special	1928	9.00
C-3	Chevrolet Special (dble)	1928	9.00
71	Chevrolet Special	1922-1927	6.50
71	Chevrolet Extension	1922-1928	3.50
D-1	Chrysler	Model 50	5.00
D-2	Chrysler 4	52 and Plymouth	5.00
D-3	Chrysler	Model 80	10.00
D-4	Chrysler	50-62-70-72-75	8.00
D-5	DeSoto	Model 65	6.00
D-6	Chrysler	Model 65	6.00
28	Chrysler Zipper	50-52	6.00
14-B	Chrysler	60-62-70-72-75	6.00
50	Chrysler	all Coach and Sedan (Imperial)	35.00
50	DeSoto	all Coach and Sedan (Imperial)	35.00
15	Dodge 4	Prior to May, 1927	6.00
43	Dodge 4	After May, 1927	6.00
39	Dodge 6	Senior 1927-1928	6.00
40	Dodge Zipper	Senior 1927-1928	7.50
29-B	Dodge 4	All 4 Models	5.00
E-1	Dodge Stand. and Vict.	1928-1929	6.00
F-1	Durant 4	1928 (also 1927 Star)	5.00
F-2	Durant 6	55-65-1928	8.00
G-1	Erskine	All Models	6.00
30	Essex Zipper	All 6 Models	7.50
8	Essex Super (dble)	All 6 Models	15.00
50	Essex	all Coach and Sedan (Imperial)	35.00
H-1	Falcon Knight 1927-1928	(also W. K. 56)	8.00
16	Ford Regular	Model T before Hot Spot	1.75
17	Ford Hot Spot Reg.	Model T with Hot Spot	1.75
9	Ford Hot Spot Spec.	Model T with Hot Spot	6.00
11	Ford Special	Model T before Hot Spot	6.00
10	Ford Super	All Model T	9.00
33	Ford Zipper	All Model T	3.50
37-A	Ford Regular	Model A Ford	3.00
33-A	Ford Zipper (dble)	Model A	4.50
50	Franklin	all Coach and Sedan (Imperial)	35.00
I-1	Gardner 6	1927	8.00
I-2	Gardner 6	1928	8.00
I-3	Gardner 8	1928	10.00
50	Gardner	all Coach and Sedan (Imperial)	35.00
J-1	Graham Paige	610-614	8.00
J-2	Graham Paige	619-629	10.00
J-3	Graham Paige	835	10.00
50	Graham Paige	all Coach and Sedan (Imp.)	35.00
42	Hudson Regular	1927-1928	6.00
K-1	Hudson	1929	8.00
31	Hudson Zipper	all Hudsons since Feb., 1927	9.00
50	Hudson	all Coach and Sedan (Imperial)	35.00
L-1	Hupmobile 6	1928	8.00
L-2	Hupmobile 6	1928	8.00
L-3	Hupmobile Light 8	1928	10.00
50	Hupmobile	all Coach and Sedan (Imperial)	35.00
M-1	Jordan 6	1927	10.00
M-2	Jordan 6	1928	10.00
M-3	Jordan 8	1927	10.00
M-4	Jordan Air Line 8	1928	10.00
50	Jordan	all Coach and Sedan (Imperial)	35.00
50	LaSalle	all Coach and Sedan (Imperial)	35.00
50	LaSalle	all Coach and Sedan (Imperial)	35.00
50	Locomobile	all Coach and Sedan (Imperial)	35.00
N-1	Marmon 68	1928	10.00
N-2	Marmon 78	1928	10.00
50	Marmon	all Coach and Sedan (Imperial)	35.00
22	Nash Advanced	1927-1928	8.00
32	Nash Light	1927	6.00
21	Nash Special	1927-1928	6.00
37	Nash Standard	1927-1928 and "400"	6.00
O-1	Nash Advanced	"400" Series	8.00
O-2	Nash Special	"400" Series	8.00
O-3	Nash Standard	"400" Series	6.00
50	Nash	all Coach and Sedan (Imperial)	35.00
P-1	Oakland 6	1927	7.50
P-2	Oakland 6	1928	7.50
50	Oakland	all Coach and Sedan (Imperial)	35.00
Q-1	Oldsmobile 6	1927	8.00
Q-2	Oldsmobile 6	1928-1929	8.00
50	Oldsmobile	all Coach and Sedan (Imperial)	35.00
50	Packard	all Coach and Sedan (Imperial)	35.00
R-1	Peerless 6	1927	8.00
R-2	Peerless 6	1928	8.00
50	Peerless	all Coach and Sedan (Imperial)	35.00
50	Pierce-Arrow	all Coach and Sedan (Imp.)	35.00
48	Plymouth	all Coach and Sedan (Imperial)	35.00
50	Pontiac	1927	6.00
50	Pontiac	1928	5.00
50	Pontiac	all Coach and Sedan (Imperial)	35.00
T-1	Reo 6 Flying Cloud	1927	8.00
T-2	Reo 6 Flying Cloud	1928-1929	8.00
50	Reo Flying Cloud	all Coach and Sed. (Imp.)	35.00
50	Studebaker Stand.	1925-1927	6.00
27	Studebaker Big 6	1925-1927	6.00
U-1	Studebaker Dictator	1928-1929	8.00
U-2	Studebaker Comm.	1928-1929	8.00
U-3	Studebaker Pres.	1928-1929	10.00
50	Studebaker	all Coach and Sedan (Imperial)	35.00
50	Stutz	all Coach and Sedan (Imperial)	35.00
35	Universal	All Cars	7.50
Y-1	Whippet 4	1928-1929	3.00
24	Whippet 4	1928	3.00
46	Whippet 4	1927-1928	5.00
W-1	Willys-Knight	70-A	8.00
W-2	Willys-Knight	66-A	8.00
H-1	Willys-Knight	(also Falcon-Knight)	8.00
50	Willys-Knight	56-70 Coach & Sedan (Imp.)	35.00
X-1	Wolverine	1927-1928-1929	8.00
50	Wolverine	all Coach and Sedan (Imperial)	35.00
50	Imperial Heater for all fine Cars		35.00

NOBLITT-SPARKS INDUSTRIES, Inc., INDIANAPOLIS, INDIANA

Formerly Indianapolis Pump and Tube Company

# PROFITS TALK!

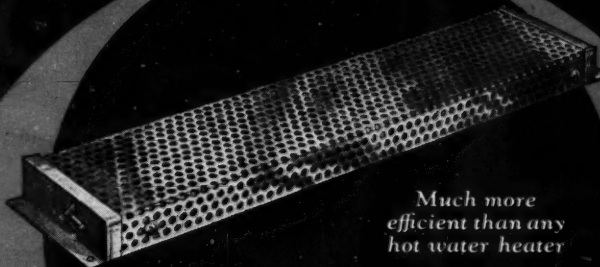
**This Big-Profit Heater Line  
Outsells, Outperforms all others**

*Universal ~ for All Cars ~ No Big Stock to Carry*

## CHANSON Exhaust Type Heater

Model RC-14  
for all cars

List  
**\$10.00**

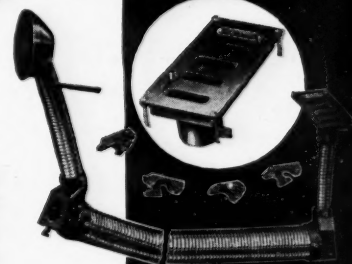


Much more  
efficient than any  
hot water heater

**CHANSON**  
**Super-Steam Heater**  
One model fits all cars  
List **\$18.50**

## CHANSON Forced Draft Heater Model A-1 for all cars

List  
**\$7.50**



**Chanson Car Heater Business is good business. A big demand—a big profit—and not much standard equipment to worry about. Pick a winning line like Chanson—a complete line—and give the public just the type heater they want—without the risk of having dead numbers on your shelves.**

This is a  
**CHANSON**  
Year  
Send for the  
latest  
**CHANSON**  
catalog and  
find out why

# CHANSON

(Reg. U. S. Pat. Off.)

**HEATERS FOR ALL CARS**

Mfd. by CHANSON DIVISION, Illinois Iron & Bolt Co., Carpentersville, Ill.

See the Chan-  
son exhibit at  
the A. E. A.  
Show—Col-  
iseum, Chicago,  
Oct. 22-27  
Booths  
629, 630, 631

Pin a dollar bill to the coupon  
and get this \$1.80 Chanson  
Soft Faced Hammer.

Much better than solid cop-  
per or babbitt hammers.  
Plugs are interchange-  
able. Mail the cou-  
pon NOW.

**SPECIAL  
Introductory  
Offer**

## MAIL THIS COUPON

CHANSON DIVISION  
Illinois Iron & Bolt Company  
Carpentersville, Ill.

Enclosed find \$1.00. Please send me your 1½ lb. CHANSON Soft Faced Hammer which lists at \$1.80. I will pay postage. Also send me the latest CHANSON Heater Catalog.

Name.....

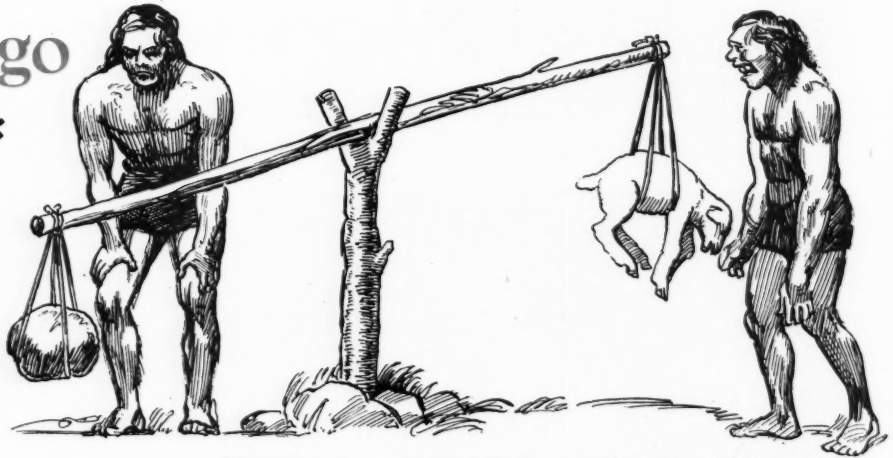
Address.....

City..... State.....



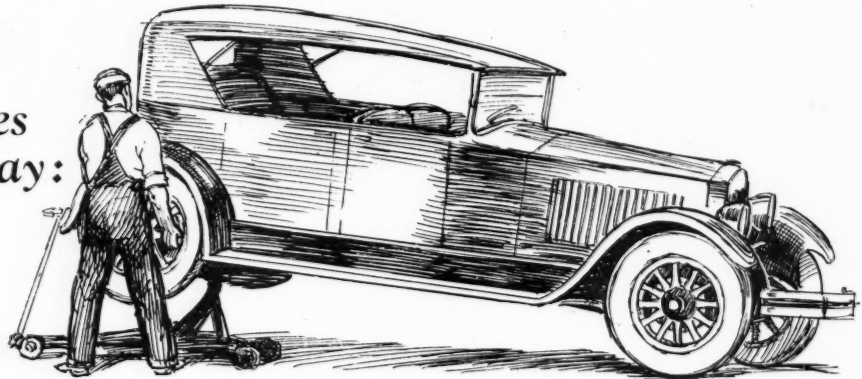


2000 Years Ago  
they weighed thus:



No Units of Weight—No Standards  
No Accepted Measuring Means

2 Years Ago  
they Adjusted Brakes  
this way:



**BUT NOW**

**They have Cowdrey Brake Testing Machines**

To tell in 5 Minutes—

- Stopping Distance
- Skidding
- Eccentric Drums
- Glazed or greasy lining
- Equalization
- Distribution front and rear

And the car owner may be given a Certificate showing the stopping distance of his car, from the readings of the machine, without road testing.

**COWDREY BRAKE TESTER ORGANIZATION, Inc.**  
**Fitchburg** **Massachusetts**

# Help yourself to this market!

## *Model T Ford needs*



THE STANDARD SPARK  
PLUG OF THE WORLD

## *Spark Plugs*

**D**O YOU know how many millions of Model T Fords are still running? If you have access to the license records, just count the number now being driven in your territory.

*Then count every one of these Model T Fords as a prospect for a new set of AC Spark Plugs.*

Tell the owner what he will get from changing now to AC's: easier starting, faster acceleration, better hill climbing, more miles per gallon.



Don't overlook this big market just waiting to be sold the AC 1075. Small investment for the dealer, greater percentage of profit per sale, and quick sales because of low price.

Car owners everywhere are being urged to change spark plugs after a season's driving or 10,000 miles.

There's your cue. Tell the car owner what happens when spark plugs wear out. Sell him a new set of AC's, proved, by every test, *standard of the world.*

AC-SPHINX  
Birmingham  
ENGLAND

AC Spark Plug Company  
FLINT, Michigan

AC-TITAN  
Clichy (Seine)  
FRANCE

AC SPARK PLUGS AC SPEEDOMETERS AC AIR CLEANERS AC OIL FILTERS AC FUEL PUMPS  
AC GASOLINE STRAINERS AC AMMETERS AC OIL GAUGES AC THERMO GAUGES

© 1928, AC Spark Plug Co.



FOR **EXACT**

**CARBURETION**

SPECIFY  
**SCHEBLER**  
"REG. U. S. PAT. OFF."  
**CARBURETORS**

*The World's Finest*

THE  
**WHEELER-SCHEBLER**  
**CARBURETOR CO.**  
ESTABLISHED 1901  
INDIANAPOLIS, U.S.A.

— AMERICA'S OLDEST EXCLUSIVE CARBURETOR MANUFACTURER —

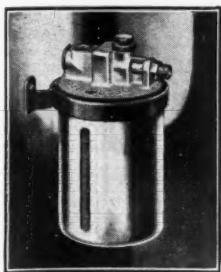
## Ideas Build Business and Help Your Profits

Put new and practical ideas at work in your business and both you and your customers will be benefited.

MOTOR AGE is a dynamo of business-getting ideas for live dealers. Ideas that attract trade, reduce overhead, increase sales and add to your profits.

For your own good, read every issue of MOTOR AGE from cover to cover. Spot the ideas that you can adapt to your own business, put them at work and *cash in!*





### Does what you've always known should be done

Takes lubrication where it's needed most: right up into cylinder walls, rings, valves, pistons.

...and merchandised to make it a big success for you. Get the facts!

DECROW AUTOMOTIVE SPECIALTIES, Inc.  
LOCKPORT, N. Y.

# DECROILER



## DISTRIBUTORS!!

Tools—capable of standing up under any demonstration—sure of netting you a handsome profit—making you new friends as you sell them—This is what you get in the "Old Forge" line of wrenches, punches and chisels. Try them and convince yourself.

QUALITY TOOL CORPORATION  
NEW WILMINGTON PENNSYLVANIA



The busiest dealers with-  
in the automotive indus-  
try are the readers of  
*Motor Age*.

It keeps them up on their  
toes—alert, resourceful and  
in position to recognize suc-  
cess when it comes their way.

## This Tool Finds SHIMMY and Causes of Hard Steering and Tire Cupping

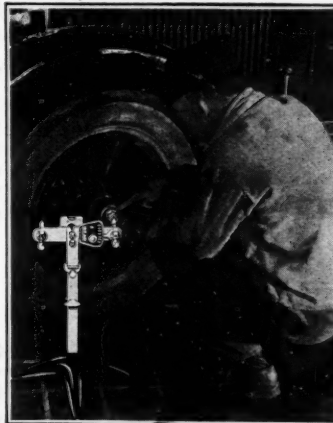
*Discovers bent and  
twisted axles and checks  
caster (or backward tilt).*

The most profitable tool  
you can have in your  
shop. Will discover  
hundreds of dollars  
worth of repairs every  
month. Nothing else like  
it in the world!

### BEAR AXLE GAUGE No. 40

Recommended by leading  
automobile and tire man-  
ufacturers for use by all  
dealers and service shops.  
No need to remove axle.

Simply remove hub cap and set gauge  
against it. Full instructions sent with  
every gauge.



### This Gauge is the KEY to Wheel and Axle Alignment

Without this gauge you are actually  
working in the dark. You can't line up  
wheels or adjust front brakes if the axle  
is bent or twisted, or doesn't have the  
proper caster. Most of the big trouble  
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for Shimming Axles  
The Axle Gauge finds the  
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Simply drive in between  
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For ALL Automobiles  
COOLS THE MOTOR



Lubricates upper chambers perfectly.  
Lubricates Valve and Valve Stems.  
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Prolongs life of Motor.  
Prevents carbon deposits, removes carbon  
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Brings you new customers  
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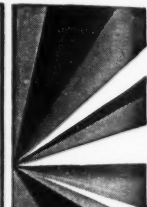
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7

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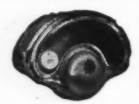
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**JUMBO**  
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MAKES SERVICE PAY  
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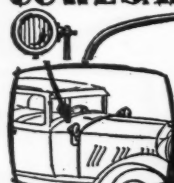
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To find men or employment  
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**WILL HELP YOU**

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Guaranteed by the name "YANKEE"

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With auger bit bore deep into tough wood. Then pull upward with all your strength. Bit will not come out of "Yankee" chuck.



See this "Yankee" Ratchet Bit Brace at your hardware dealer's. Made and finished like a precision tool. Try it and you will appreciate the economy of paying a little more to own the finest tool of its kind.

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Price, 10" Sweep, \$8.20

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Write for FREE "Yankee" Tool Book

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*Make Better mechanics*





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## The Chilton Automotive List of 135,000 Names Is Corrected Daily

Over 20,000 Names are dropped each year.

Over 25,000 Names are added each year.

Over 50,000 Names and addresses are changed each year.

A force of more than 100 people are kept busy every day to accomplish this, with the result that the Chilton List—with over 95,000 changes each year—is the outstanding leader in its field.

Mechanical equipment makes selections to suit your needs, and complete printing, multigraphing, binding and creative art and copy service are available, in addition to merchandising counsel of our representative in your territory.

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*Direct Mail Division*

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Philadelphia, Pa.



**DEALERS ! ELECTRICAL SERVICE STATIONS!**  
*a new source of profit in the*  
**Delco - Remy**  
**ELECTRIC WINDSHIELD WIPER**

Again contributing to the safety and convenience of modern motoring, Delco-Remy offers an *electrically operated windshield wiper*. Developed along new lines and built to the same high standards of quality and precision which have made Delco-Remy products famous the world over, this new *electric* windshield wiper is destined to create a new high standard of efficiency for windshield wipers and a new source of profitable business for Electrical Service Stations and Dealers.

A powerful, yet compact electric motor operates the Delco-Remy windshield wiper —powerful enough to operate, with ease,

either the single wiper or the wiper with tandem attachment. It maintains constant speed regardless of engine conditions. It does not slow down on the hills or at times of rapid engine acceleration and *the blade stays where it is stopped*, never dropping down into the driver's line of vision.

And the price is low enough to make it available to every motorist—\$5.00, list, for the single wiper—\$1.00 more for the tandem attachment. (Adapter plates furnished to fit all cars.) Liberal discounts to the trade.

Control Branches of United Motors Service can supply you. Order your initial stock **NOW!**

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*Delco Batteries . . . Delco-Remy Electric Windshield Wipers*





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MOTOR WHEEL CORPORATION, LANSING, MICH.

# Motor Wheel

WOOD . WIRE . STEEL

